

# THE EUROPEAN COMMUNITY IN LATER PREHISTORY

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Studies in honour of C. F. C. Hawkes

Edited by  
John Boardman, M. A. Brown and T. G. E. Powell

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Volume 5

THE EUROPEAN COMMUNITY IN  
LATER PREHISTORY

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JOHN BOARDMAN, M. A. BROWN AND T. G. E. POWELL



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The  
European Community  
in Later Prehistory  
*Studies in honour of*  
*C. F. C. Hawkes*

edited by

*John Boardman, M. A. Brown*

*and*

*T. G. E. Powell*



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Natali die Christophori Hawkes sexaginta quinque annos peracti, doctoris praeclari, professoris eruditi, amici fidelissimi, viri in tota vita ejus integri, qui incursionem in Britanniam Belgarum aperuit, urbem Cunobelini ac coloniam Camuloduni illustravit, deinde totae Europae saeculorum aeneorum atque protohistoricorum permutationes studiis suis explicavit haec scripta nos amici, collegae, discipuli honoris causa libenter dedicamus.



*Christopher Hawkes*

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# Abbreviations

<i>Acta Arch.</i>	<i>Acta Archaeologica</i> Copenhagen
<i>Acta Arch. Hung.</i>	<i>Acta Archaeologica Academiae Scientiarum Hungaricae</i> Budapest
<i>AD</i>	<i>Archaiologikón Deltion</i> Athens
<i>AE</i>	<i>Archaiologike Ephimeris</i> Athens
<i>AJA</i>	<i>American Journal of Archaeology</i> New York
<i>Antiq.</i>	<i>Antiquity</i> Gloucester/Cambridge
<i>Antiq. Journ.</i>	<i>The Antiquaries Journal</i> London
<i>Arch.</i>	<i>Archaeologia</i> London
<i>Archaeol. Belg.</i>	<i>Archaeologia Belgica</i> Brussels
<i>Arch. Anz.</i>	<i>Archäologischer Anzeiger</i> (in <i>Jahrbuch des deutschen archäologischen Instituts</i> ) Berlin
<i>Arch. Camb.</i>	<i>Archaeologia Cambrensis</i> Cardiff
<i>Archéol.</i>	<i>Archéologie</i> (section of <i>L'Ant. Class.</i> )
<i>Arch. Ért.</i>	<i>Archaeologiai Értesítő</i> Budapest
<i>Arch. Hung.</i>	<i>Archaeologia Hungarica</i> Budapest
<i>Arch. Journ.</i>	<i>Archaeological Journal</i> London
<i>Arch. Közl.</i>	<i>Archaeologiai Közlemények</i> Budapest
<i>Archivo Esp. de Arqueol.</i>	<i>Archivo Español de Arqueología</i> Madrid
<i>Bayer. Vorgeschichtsbbl.</i>	<i>Bayerische Vorgeschichtsblätter</i> Munich
<i>BCH</i>	<i>Bulletin de correspondance hellénique</i> Athens and Paris
<i>BMQ</i>	<i>British Museum Quarterly</i> London
<i>Bonn. Jahrb.</i>	<i>Bonner Jahrbücher</i> Bonn
<i>BPI</i>	<i>Bullettino di Paleontologia Italiana</i> Rome
<i>BRGK</i>	<i>Bericht der Römisch-Germanischen Kommission</i> Frankfurt a.M./Berlin
<i>BSA</i>	<i>Annual of the British School at Athens</i> London
<i>CAH</i>	<i>Cambridge Ancient History</i>
<i>Celticum</i>	<i>Celticum</i> (suppl. of <i>Ogam</i> ) Rennes
<i>ESA</i>	<i>Eurasia septentrionalis antiqua</i> Helsinki
<i>Ethnogr.-Arch. Forsch.</i>	<i>Ethnographisch-archäologische Forschungen</i> Berlin

## ABBREVIATIONS

<i>Glasnik Priština</i>	<i>Glasnik Mozejskega Kosova i Metohije</i> Priština (Yugoslavia)
<i>Helinium</i>	<i>Helinium</i> Wetteren (Belgium)
<i>Inv. Arch.</i>	<i>Inventaria Archaeologica</i> (published in each participating country)
<i>IPEK</i>	<i>Jahrbuch für prähistorische und ethnographische Kunst</i> Berlin
<i>Jahrb. RGZM Mainz</i>	<i>Jahrbuch des Römisch-Germanischen Zentralmuseums</i> Mainz
<i>JHS</i>	<i>Journal of Hellenic Studies</i> London
<i>JRS</i>	<i>Journal of Roman Studies</i> London
<i>JSGU</i>	<i>Jahrbuch der Schweizerischen Gesellschaft für Ur- und Frühgeschichte</i> Frauenfeld
<i>KSIA</i>	<i>Kratkije Soobščenija Instituta Arkheologii</i> Kiev
<i>KSIMK</i>	<i>Kratkije Soobščenija Instituta Istorii Materialnoj Kultury</i> Moscow
<i>L'Ant. Class.</i>	<i>L'Antiquité classique</i> Brussels
<i>Latomus</i>	<i>Latomus</i> Wetteren (Belgium)
<i>MAK</i>	<i>Materialy po Arkheologii Kavkaza</i> Moscow
<i>Mat. Cerc. Arb.</i>	<i>Materiale si cercetări arheologice</i> Bucharest
<i>MLA</i>	<i>Materialy i Issledovanija po Arkheologii</i> SSRR Moscow-Leningrad
<i>Mon. Ant.</i>	<i>Monumenti Antichi</i> Rome
<i>Not. Scav.</i>	<i>Notizie degli Scavi di Antichità</i> Rome
<i>OAK</i>	<i>Otčety Imperatorskoj Archeologičeskoj Kommisii</i> St Petersburg
<i>Opusc. Arch.</i>	<i>Opuscula Archaeologica</i> Lund
<i>Památky Arch.</i>	<i>Památky archaeologické</i> Prague
<i>PPS</i>	<i>Proceedings of the Prehistoric Society</i> Cambridge
<i>Präh. Zeitschr.</i>	<i>Prähistorische Zeitschrift</i> Berlin
<i>Principe de Viana</i>	<i>Crónica arqueológica del Instituto 'Principe de Viana'</i> Pamplona
<i>Proc. Brit. Acad.</i>	<i>Proceedings of the British Academy</i> London
<i>Proc. Hants. Field Club</i>	<i>Proceedings of the Hampshire Field Club and Archaeological Society</i> Southampton
<i>Proc. Soc. Ant. Scot.</i>	<i>Proceedings of the Society of Antiquaries of Scotland</i> Edinburgh
<i>Pyrenae</i>	<i>Crónica arqueológica del Instituto de Archeología et Prehistoria del Universidad</i> Barcelona
<i>Rad vojv. muz.</i>	<i>Rad vojvodjanskih muzeja</i> Novi Sad
<i>Rev. Arch.</i>	<i>Revue archéologique</i> Paris
<i>Röm.-Germ. Forsch.</i>	<i>Römisch-Germanischen Forschungen</i> Frankfurt
<i>SA</i>	<i>Sovietskaja Arkheologija</i> Moscow-Leningrad
<i>Situla</i>	<i>Situla, Opuscula Musei Nationalis Labacensis</i> Ljubljana

## ABBREVIATIONS

<i>Slov. Arch.</i>	<i>Slovenská archeológia</i> Bratislava
<i>Trier. Ztschr.</i>	<i>Trierer Zeitschrift</i> Trier
<i>WMBH</i>	<i>Wissenschaftliche Mitteilungen aus Bosnien und Herzegowina</i> Sarajevo
<i>WPZ</i>	<i>Wiener Prähistorische Zeitschrift</i> Vienna
<i>ZfE</i>	<i>Zeitschrift für Ethnologie</i> Berlin



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From Bronze Age to Iron Age:  
a sequel to a sequel

*N. K. Sandars*





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In the first winter of the last war Christopher Hawkes wrote: 'The feeling of solidarity and friendship between archaeologists of many nations has truly been, in the last twenty years, among the forces making for the intellectual harmony of our civilization, and I know that it will not be killed'. That was in the preface to his *Prehistoric Foundations of Europe*; and now, nearly thirty years later, we can see how truly he prophesied, and how justified was the spirit of that hope. The book which it prefaced was a fine achievement, quite different in intention and scope to Childe's *Dawn*. It may now have a rather old fashioned look: the pages are small and so are the illustrations, but how packed and apt they are. It was never an easy book to read, the banquet was spread so thickly, but like all Christopher Hawkes's writings, it set one thinking and arguing. In 1939 he drew the line at 1400 B.C., by which time the prehistoric foundations were truly laid; while looking ahead, in the last chapter, he wrote of how, after the Mycenaean supremacy, the old Aegean order fell and Mycenaean culture stopped short, and a 'fatal blank' was left for some three centuries. Then in 1948, in a memorable paper written together with Gordon Childe's 'Final Bronze Age in the Near East and Temperate Europe' he jumped into the middle of the 'fatal blank'.<sup>1</sup> Since then, though the balance may have shifted here and there (it is always shifting), the blank has continued to narrow and to fill. Stanley Casson once spoke of the '*frisson* of excited anticipation' which is invariably aroused by the approach of a Dark Age,<sup>2</sup> and even if another and more recent Dark Age has lately absorbed much of Christopher Hawkes's time he has not lost his former concern. I shall hope, therefore, to express my personal gratitude and esteem by some thoughts and comments on that earlier Dark Age; and in particular to look once more at the chronological guide-lines which have been thrown out across it since 1948.

It is not my purpose, nor would I be competent, to pass in review that vast material of the European Late Bronze Age, with the relative chronologies that have been worked out for different regions. All these I accept gratefully. My purpose is the strictly limited one of attempting a first impression of the bearing upon barbarian Europe of recent changes in the archaeological scene in the Aegean and the Near East.

The immense archaeological industry of the last twenty years has made the Mycenaeans themselves, with the outlines of their world down to the time of its

collapse, immeasurably better known to us; but when we come to that collapse we are still asking many of the same questions that were worrying us twenty, and even thirty years ago. Who are the northerners so often and so irritably referred to by Egyptian texts and inscriptions? There has been a great deal of discussion and some progress but we still do not know who it was who 'coming from all lands' joined the Libyans to raid Egypt in 1238 (or as some would say in 1219); or who made up the ramshackle army defeated by Ramesses III in the Delta about 1190 (or in 1165), and which of those dates we should choose?<sup>3</sup> Who destroyed Ugarit, Alalakh and other Bronze Age Levantine cities, and when? What brought the Hittite Empire to a wretched end? Who attacked Mycenae and other Mycenaean sites, and how many times, and when? Who were the newcomers in Troy VII? Who were the Dorians and where did they come from, and finally, what part did the barbarian north play in these events?

We still do not know the answers, and specialists in Aegean archaeology insist that absolute chronology seems, if anything, less certain now than it seemed formerly when we knew so much less.

Leaving aside for the moment these more absolute questions, Vincent Desborough's magisterial survey published in 1964 still provides the best interpretation of events in the Aegean and on the Greek mainland at the end of the second millennium.<sup>4</sup> He has painted a picture of the breakdown, due in some part to attack or attacks from outside, of a civilization already highly complex and centralized, and for that reason so much the more vulnerable. The most destructive attack was by land and apparently from the north, since the Aegean islands, the east coast of Attica, and the far western seaboard were not affected until some time later; sea communications remained open till long after the destruction of the central Mycenaean sites. This crisis was probably followed by a sharp drop in population and abandonment of sites, not only in the Argolid, but also in Laconia, Messenia, Phocis and Boeotia, and by a scattering of refugees to the outer coasts and islands, including the Ionian islands. Later there was a gradual resettlement by a people, in some ways very different though probably coming from no great distance, who are archaeologically recognized by their burials, inhumed in stone cists, and are identified as 'Dorians'.

In an important subsequent paper Desborough has reinforced the argument in favour of a new occupation, listing some four hundred cists and earth-cut tombs – a formidable number when compared to the small tally of known cists of Mycenaean age. At Thebes and Mycenae they actually overlie earlier Mycenaean walls, and Desborough is able to write that this manner of burial 'is generally characteristic of the whole Greek mainland between 1100 and 1000'. But at the same time the characteristic pottery is 'still rooted in the Mycenaean tradition . . . with little or nothing that cannot be derived from the Mycenaean style'.<sup>5</sup> There is also very

little in the material culture of these post-Mycenaean centuries that is really new. The early iron industry can be traced to Cyprus, but with a second early centre in Macedonia. There is also a small, if much paraded, group of 'northern' bronzes (fibulae, swords, knives and spears), though on closer examination their northern credentials do not all stand up to scrutiny.<sup>6</sup> The argument remains open at the moment whether the change was due to a backward and previously down-trodden element in the population: shepherds from the hills and their like, or to newcomers and neighbours from not very far away to the north-west, in Epirus and Albania. On the whole opinion favours the latter explanation; though given the modes and traditions of transhumance as it existed till very recently in the Balkans, the two explanations may really be quite compatible. Shepherds who spent the summer with their flocks in the Albanian mountains may have wintered nearer the Aegean or Ionian seas. Famine may also have played its sinister part in these changes, since correspondence between Pharaoh and the Hittite king in the later thirteenth century refers to scarcity in Anatolia.<sup>7</sup> If the cause was climatic it could imply unrest and famine in other regions, including perhaps the Ukraine and Transcaucasia, but this is speculation. What is important at the moment is the recognition that the main destruction of Mycenaean sites and the subsequent resettlement of the Aegean were distinct acts, separated by a recognizable lapse of time. This view, if well-founded, has important consequences for an understanding of what was happening in Europe north of the Pindus, and particularly for the beginning of the European Late Bronze Age and for its chronology.

Among the new lines of investigation there is the important work on emission spectrography carried out on Aegean Late Bronze Age pottery in the Research Laboratory at Oxford, and the archaeological conclusions that Dr Catling has been able to draw from it concerning trade and colonization.<sup>8</sup> Professor Nicholas Hammond's survey of Albania has added much new material, also recent work in Rumania, to both of which I shall return later; whilst an important review of Mycenaean pottery in the Levant by Mrs Vronwy Hankey appeared recently.<sup>9</sup> One consequence of this archaeological activity is a revision of chronology in the Aegean and the Near East. With few exceptions the changes have not been towards greater certainty, but rather to a realization of the great range of possibility. We still depend on Egyptian dates in the last resort for the phases of later Helladic civilization, and especially for the land and sea raids and the linked destruction of cities in Syria and Palestine where Mycenaean pottery has been found. This was the evidence on which Furumark built his chronology, which in its turn has come to stand as a self-supporting model, although many of its bases are no longer valid in Egyptian terms and have been amended in his own more recent work.

The beginning of Mrs Hankey's article should be quoted, for it sets out a central

problem. She writes: 'It is rather startling to find that since the diffusion of the Furumark concept and his monumental typology, Mycenaean pottery is itself often used as the cultural cross-contact to date levels at sites in the Middle East where local pottery has, as yet, a less accessible typology and where Egyptian dated finds, or seals from Syria and Mesopotamia, however abundant, often have to be distrusted for dating as they provide too wide a margin in time'. In place of the independent dating we hoped for we have, all too often, classic examples of the argument in a circle, though it is possible that a very close study of material from the Levant, which is now in progress, may produce dating criteria independent of the Mycenaean contact.

From Late Helladic III A onwards Mycenaean dates become increasingly important to the wider prehistory of Europe. On them depend the cultural phases in Lipari, Sicily, Italy and further north as well. The LH III A pottery found at Tell El-Amarna dated between 1379 and 1362 in itself delimits neither the beginning nor the end of a Mycenaean phase or style, but it gives a certain span some *part* of which must coincide with that style. LH III A pottery imported to Qatna on the Orontes and in use there before the destruction of the site by the Hittites around 1375 provides another pointer. But more important still is the fact that pots of transitional LH III A and III B style, from Ghurāb in the Faiyum, are not found before the accession of Ramesses II in 1304, so that this transition probably falls within the period between the accession of Tutankhamūn and the early years of Ramesses II, that is to say the closing decades of the fourteenth century.<sup>10</sup>

This point gained, it is embarrassing to find that in the Levant the LH III A style seems to have continued in use alongside III B right through the thirteenth century. At Deir Alla in the Jordan valley LH III A2 and III B pots were found together in a level fairly closely dated to the last decade of the thirteenth century, for they were both still in use when the building was destroyed by earthquake. A burnt faience vase with a cartouche of Tausert, the widow of Seti II, who reigned after his death in 1210 and before the accession of Ramesses III about 1198, was also found on the same floor dating this destruction. But the difficulty of settling the lower date of LH III A is as nothing compared to the complexities of the transition from LH III B to III C; this is one of the most debated and most crucial dates in east Mediterranean chronology. Furumark's choice of 1230 was based on negative evidence: that no LH III B pottery had been found with objects later than Ramesses II who died c. 1232. But the Deir Alla evidence disposes of this argument, while the same story is told by other sites in the Levant. For the latter end of his chronology Furumark used the so-called 'Philistine' pottery of the Levant, which was developed under the influence of LH III C pottery, and has often been connected with the 'Philistine' settlements in Palestine after the defeat of the great land and sea raid of c. 1191. Vincent Desborough

pointed out in 1964 that, apart from the question of Philistine pottery, there was 'no evidence that LH III B may not have persisted for some long time after 1230, a hundred years for all one could tell', but he continued, 'I do not think that 'Philistine' pottery can have been introduced later than 1165 since it is a mainly stylistic off-shoot of early III C, the first appearance (of which) in the Aegean can hardly be less than twenty years earlier', so that 'the situation is that LH III B is still current in 1230, while LH III C cannot have started later than 1185'. He thereupon chooses 1200 as a date 'perfectly admissible' for the transition from III B to III C. Basing himself on the same 'Philistine' argument, along with the absence of III C pottery from sites destroyed by the raiders on their way to the delta, Stubbings writes that the III C phase cannot have begun before the 1180's.<sup>11</sup>

Unfortunately neither the destruction levels of cities in the Levant, nor the 'Philistine' pottery, provide such clear-cut answers as had been hoped. Some destruction may have been due to an earlier raid during the reign of Merneptah c. 1220; and for various reasons the stratigraphies of Alalakh (Tell Atchana), Ugarit (Ras Shamra) and Tell Abu Hawam, no longer give the most unequivocal answers; but fortunately there are other sites that can be used to supplement them.

LH III B pottery has been found in fifty-seven sites in Syria, and in Palestine (even as far east as the Jordan valley), of which twenty-five also had LH III A, but there is extremely little III C throughout the Levant. It only occurs at Tell Sukas on the coast between Ras Shamra and Byblos, possibly at Ashdod (also on the coast but thirty kilometres south of Tell Aviv), and at Beth Shan which lies at the Jordan end of a route that starts inland from the coast at Megiddo.<sup>12</sup>

From the time of Merneptah correspondence between the ruler of Cyprus (Alasia) and the ruler of Ras Shamra (Ugarit) brings alive the threatening atmosphere in the cities of the Levant. From his position of temporary safety and strength, the former can advise: 'Even if what you have written is true, that "the enemy ships have been sighted at sea", stay firm. Where are the troops and chariots? Are they not with you? . . . Fortify the towns, bring in the troops and chariots and await the enemy with firmness'. The answer reads, 'My father, already the enemy's ships are here. They have burnt my towns with fire and done dreadful things in the country. Does not my father know that my troops and chariots(?) are in the Hittite Land, and all my ships in Lycia. They have not yet returned to me and the land is abandoned to itself . . . Yes, seventy ships are here and have ravaged. If there are more enemy ships (about) tell me what they are like'.<sup>13</sup> This correspondence also points to danger by land from the direction of Anatolia, ahead of raids from the sea.

Megiddo away to the south-east of Haifa was not destroyed in the Ramesses III wars. It had very late LH III B pottery, and no III C, but some 'Philistine' pots that look early in the series, and which Mrs Hankey compares to Late Helladic pots from

Kerameikos and Kephallenia.<sup>14</sup> Hazor on the other hand was destroyed at the end of the Late Bronze Age and also had LH III B but no III C pottery, and this is the commoner situation. Tell Taanek and Schechem (Balata) are similar, but the destruction at the latter site is put into the second half of the twelfth century. There is no III C at Deir Alla, east of Jordan, and the destruction there, due probably to an earthquake, cannot be earlier than 1209, and may be several years later. There is a clear gap after this and before the 'Philistine' pottery appears. The 'temple' at Amman with its LH III B pots may have been destroyed 'some time in the thirteenth century'.

There is LH III B at Lachish, none of it particularly late in style, and the Bronze Age city was destroyed, either at the time of Merneptah's raid or just before Ramesses III's victory in c. 1191. The latter date seems likelier since a scarab of Ramesses III was found on the burnt surface, and had itself been damaged by the fire. Olga Tufnell writes, 'The balance seems to fall for a date early in the XX dynasty for the destruction of the Bronze Age city', that is to say after 1200.<sup>15</sup>

Leaving aside the unstratified stirrup-jar at Ashdod, if we look at the two sites with III C pottery, Tell Sukas and Beth Shan, then according to the excavators, Tell Sukas was probably destroyed in the eighth year of Ramesses III and had LH III A and III B pottery, and one (unillustrated) piece of LH III C1 in the destruction debris. At Beth Shan LH III B is recorded in Level VII, with Cypriot Base Ring II and White Slip II, but it is disappearing towards the end of this phase. Then in Level VI the first LH III C appears with a complete stirrup-jar, which is illustrated by Mrs Hankey, and which Mr Oren informs me was found in a structure (Room 1586 of House 1500) which follows closely the layout of Egyptian buildings and may have been the headquarters of the Egyptian garrison. Moreover he points out that it is 'accurately dated by stone-cut hieroglyphic inscriptions of Ramesses Weser Khepesh, an official of Ramesses III, perhaps soon after the victory over the Sea Peoples'.<sup>16</sup> This stratigraphy is of great importance for Late Mycenaean chronology for, if there is no gap in the occupation, and no destruction between Level VII (with LH III B) and Level VI (with III C), the latter being 'a mere reconstruction of the earlier stratum', then LH III B seems likely to have survived at Beth Shan till around 1190, and the III C to have come in perhaps in the 1180's, and anyhow before 1166, the end of the reign of Ramesses III. There is again, according to Mr Oren, no evidence for a Philistine garrison at Beth Shan and practically no 'Philistine' pottery has been found.

The most useful sites for our purpose are then: Deir Alla, Tell Sukas, Beth Shan and Lachish. From these a tentative conclusion can be drawn that the LH III A pottery style remained in use in the Levant throughout the thirteenth century, and that the III B style, in use in the thirteenth century, continued well down into the twelfth, and finally that III C is extremely rare, and usually found in sites that did not suffer destruction at the time of the land and sea raids in the reign of Ramesses III.

The exception to this is Tell Sukas on the coast, where a single III C sherd was found, apparently in the destruction level. The extent to which styles override one another is very striking, so that the transition from III B to III C is gradual and diverse. This is the case elsewhere too. There is independent evidence for LH III B surviving longer in the Dodecanese than in the Argolid, and the Levant simply continues this tendency. Nor are the stylistic criteria so clear-cut as they once seemed, and that applies also to the 'Philistine' pottery. Indeed the 'Philistine question' is in a state of considerable flux and uncertainty.<sup>17</sup> What is clear is that Furu-mark's original estimate of c. 1230 for the change over from LH III B to III C is far too high, though proposals for lowering it by thirty, fifty or more years are not yet generally agreed. The whole problem is far more complex and contingent than is convenient for anyone who tries to erect a sensible chronological structure upon it, or tries it out in the hope of finding something solid on which to hitch various *relative* chronologies.

The fact of the long survival of LH III A pottery in the Levant should be taken to heart as a warning when we turn to Sicily and south Italy. If this style can last till the end of the thirteenth century at Deir Alla, this may also be true of Thapsos, Cozzo del Pantano, Lipari and Ischia, and the retardation consequent upon this will apply with even greater force to more distant correlations in north Italy and across the Alps. In the general chapter of his recent study of Tarquinia, Hugh Hencken has adopted 1180 for the change from LH III B to III C, with Ausonian I and its LH III C sherds beginning around that date, and Pantalica I just before 1200, though he does not exploit the full consequences of this down-dating on the Late Bronze Age periods north of the Alps.<sup>18</sup>

In view of all this new work it is time to take a closer look at the chronology of the European Late Bronze Age. Nearly all the different regional chronologies commonly adopted depend upon H. Müller-Karpe's impressive study published in 1959.<sup>19</sup> The system there presented was admittedly over-schematized, but though certain points have since been amended by the author, it has been adopted more or less *in toto* as the working model for the European Late Bronze Age not only in the areas for which it was constructed but also much further east and north. It is therefore this system that must be studied rather than its partial amendments. The absolute chronology is based on certain propositions: that the LH III A pottery style belongs to the fourteenth century, LH III B to the thirteenth century and LH III C1 to the twelfth century. Further, it is assumed that imports of LH III A and III B pottery, and of certain bronzes and ornaments, in the Sicilian cemeteries of Thapsos, Cozzo del Pantano, Matrensa, and Plemyrion date the phases of the Sicilian Late Bronze Age to which they belong to the late fourteenth and thirteenth centuries, along with the mainland Apennine pottery, which on Lipari is associated with Mycenaean imports.



The long series of Mycenaean wares from LH III A to III C found, along with 'Peschiera-type' bronzes, at Scoglio del Tonno in the Gulf of Taranto, in spite of the absence of any controlled stratigraphy, is taken to date these bronzes also to the fourteenth and thirteenth centuries. These chronological conclusions are then stretched to cover the whole Apennine region, through its contacts with Lipari and southern Italy, and thence again to the Terremare, to the urnfields of Lombardy and the Garda sites and to admit of extension across the Alps, where Thapsos, Matrensa, Plemyrion, and the 'Peschiera' bronzes in their wider distribution, correlate with the Bronze C and D of South Germany and the Alpine zone. Peschiera and Boccatura del Mincio placed chronologically between the Middle Bronze Age of Italy and the beginning of Proto-Villanovan urnfields are also geographically central, bridging the Mycenaean Mediterranean world and that of Europe in and over the Alps.

These are general propositions; they are followed by more specific arguments concerning certain pieces of material equipment: swords, helmets and knives, which seem to have strayed from the one sphere into the other, providing opportunities to check dates and align periods. Foremost are the sword from Hammer near Nürnberg, found with a Reinecke C pin and compared to cruciform swords in use in Greece during and after LH III A; and the cheekpiece of a helmet from a Bronze D hoard at Wöllersdorf in Lower Austria, which is compared to one from an LH III B grave in the Ialysos cemetery on Rhodes; another cheekpiece and helmet found with a median-winged axe at Pass Lueg near Salzburg, and dated to Bronze D in the *Chronologie* of 1959, though since then this has been amended 'Bronze D to A';<sup>20</sup> and finally a ring-ended knife related to the northern Bronze D 'Baierdorf' type found in another Ialysos grave, this time LH III B to early C. This is the foundation for all the currently accepted dates, with Bronze C belonging to the fourteenth century, and Bronze D to the thirteenth.

In 1959 these were eminently reasonable propositions and the chronological framework which they supported, like that of Furumark for the Aegean, was immensely valuable and provided the necessary foothold for the next advance. Müller-Karpe gave strong warning, moreover, as to the symbolic nature of his sixfold division of the Late Bronze Age, but inevitably it has come to be applied too rigidly and too literally, and in places far from those for which it was intended. From the first part of this article it will be clear that archaeological data and archaeological thinking in the Aegean and Near East have undergone drastic revision in the last dozen years. The foundations have shifted, and with their shift they carry the whole superstructure of Sicilian, Italian and trans-Alpine chronology.

We will start with Reinecke Bronze C and the Hammer sword, which has been used to support a fourteenth century date for this period. The argument is at best fragile. The Hammer sword is not an Aegean type; the blade is native and shows

that the weapon was made locally. The flange is on the *upper* edge or the shoulder alone, unlike the Aegean cruciform sword which always had the flange *round* the shoulder and on the lower edge. This distinction holds for all the 'northern' swords which have been brought together into this group: Dollerup, Drnovo and a newly published sword from Ørskovhede in Jutland which, though it lacks the diagnostic T-flanged hilt, has also been included.<sup>21</sup> This extension is almost certainly borrowed from the Aegean, which in turn adopted it from the Near East early in the fourteenth century, and thereafter it was adapted to swords, daggers and knives of all sorts, and remained in use until the end of the Mycenaean age.<sup>22</sup> However, cruciform swords probably went out of use in LH III B during the thirteenth century. Since the shoulder and blade of the Hammer and Dollerup swords are not Aegean there is even less reason to confine them within the time-span of the Aegean cruciform sword, and the same holds for Bronze C and northern Period II bc, in so far as they depend on the argument just quoted. The sword from Ørskovhede is also northern Period II bc, and comes from a grave in which were bronze arrowheads which are not of European type, but may be Aegean. There is no T-extension to the pommel and K. Randsborg compares it to the earlier cruciform sword, ('Di' in my classification). What was said above concerning the flange on the upper shoulder alone applies equally here; moreover the blade edges are strictly parallel for most of their length, whereas in Aegean cruciform swords they invariably taper. The only points of comparison are the large size of the rivet-holes and a certain, very generalized, similarity in the hilt, and rivet pattern. I cannot agree therefore with the claims put forward for a close Aegean link, nor that it can support the implied date for Reinecke Ci in the last quarter of the fifteenth century.<sup>23</sup> It is however extremely interesting to have a comparative analysis of two Aegean swords, one cruciform, one horned (they are probably from Dendra and types Ci and Di), along with the European Ørskovhede sword, which shows the method of production to have been quite different in the two areas. The northern sword was cast with no subsequent forging, whereas the Greek swords had been subjected to heating and forging.

On the other hand some reflections of the Aegean do seem to occur in Northern Period II in the form of the well-known campstools, and some small ornamental gold axes from a Period II grave also published by Randsborg; so that while there is nothing inherently improbable in Aegean sword-styles influencing the European tradition, I doubt that it was a case of direct imitation of one by the other. The fragment of a 'cruciform' sword from the Rhône, republished by Randsborg, is a good deal more convincing, but unfortunately valueless for dating. In another article in this volume Dr Mozsolics makes known yet another T-handled sword, this time from Hungary and apparently belonging to the 'Peschiera horizon' (p. 60).

If the Aegean gives little direct aid in dating Reinecke C, the evidence applicable

to Bronze D is not much more encouraging. Müller-Karpe makes much use of 'Peschiera bronzes', which in Europe begin in Bronze C, and exist throughout most of Bronze D and the Riegsee phase, and which are present at Scoglio del Tonno.<sup>24</sup> It is notorious that little sense can be made of the stratigraphy of this site with its LH III A, III B and III C pots, a span of nearly three centuries, although there are certainly more III C pots than the other styles.

Lord William Taylour's study has shown that there was frequent contact between south Italy, Sicily, Lipari and the Aegean until the end of III B.<sup>25</sup> At Scoglio del Tonno contact was closest with Rhodes and Cyprus; then when Sicily (but not Lipari) dropped out, southern Italy remained in touch till the end of the period represented by LH III C pottery. This pottery is found at Torre Castelluccia and Leporano as well as Scoglio del Tonno, but now there is a stronger link with Kephallenia. The Rhodian contacts probably belong to the time before the sea battle of c. 1191, though they may have lasted till after that event, in view of the rather longer survival of III B in the Dodecanese. But although the transition to III C was without disturbance in those islands the link with south Italy, which may have been based on a luxury trade in purple, was brought to an end, no doubt owing to the disturbed state of the east Mediterranean. Subsequent relations with nearby Kephallenia reflect this situation, for the inhabitants of the Ionian islands were now, many of them, refugees from the old Mycenaean centres, who had fled from them following the disasters at the end of LH III B.<sup>26</sup> Large quantities of amber, very likely from Italy or Sicily, found in graves on Kephallenia, may be evidence of trade in the reverse direction.

The so-called 'Peschiera' bronzes at Scoglio del Tonno are at the best of times a very mixed bag. There is a spearhead of a common European sort which may have given rise to the Cretan type found at Moulana, where it is not earlier than the twelfth century.<sup>27</sup> A median-winged axe is perhaps a Terremare type, and has been compared to the mould found at Mycenae in the House of the Oil Merchant, in a III B context, to which it is alien. The one-edged knives are probably Aegean types not narrowly datable.<sup>28</sup> The 'Peschiera' dagger or knife is itself not really datable in Aegean terms although one was found in a grave at Zapher Papoura in Crete. The grave (Tomb no. 86) was disturbed, but no pottery from this cemetery appears to be later than LM III B, nor is it the latest III B, but since this style lasted measurably longer than the LH III B of the mainland we are not very much advanced. So at Scoglio del Tonno there is Mycenaean pottery covering some three centuries from perhaps the fourteenth to the twelfth or even eleventh, also Aegean knives, Apennine pottery, a 'northern' (perhaps Terremare) spearhead, axe, sickle, knives and razors. Most of these objects are thoroughly Italian, while the violin-bow fibula with two knobs could have come either way, but probably belongs to the western component along with the 'Peschiera' dagger. None of these, except possibly the last-named,

need be earlier than the twelfth century.<sup>29</sup> At Peschiera itself there *is* an earlier type of violin-bow fibula, but the other bronzes look no earlier than the Scoglio del Tonno collection. I would therefore reject unequivocally a date for Peschiera in the fourteenth century, and would prefer to start it in the thirteenth century, and perhaps not before the middle of the century.<sup>30</sup>

The next question to ask is how much light is thrown on European Late Bronze Age dates by those 'northern' objects, helmets, knives and swords, which have been found in the Aegean. Grave XV at Ialysos on Rhodes, the grave which had the ring-ended 'Baierdorf' knife, according to Desborough is LH III C, that is twelfth century, and not necessarily earlier than the first half of the century, given the new dates for LH III C. Even if it were transitional LH III B/C it would still be twelfth, not thirteenth century. There is no reason to judge the helmet cheekpiece from another Ialysos grave 'northern', in view of the LM II Knossos helmet, nor can either give a date to the Wöllersdorf or Weissig and Schmiedehausen cheekpieces which are respectively Bronze D, D-A1, and A1-A2.<sup>31</sup> There is better reason, on stylistic grounds, to link the Pass Lueg 'Early Urnfield' helmet, found with a median-winged axe, with the helmet from Tiryns, which is not earlier than 1100. The two may well be contemporary.<sup>32</sup>

Flange-hilted swords from the east Mediterranean, though off-shoots of Cowen's 'Nenzingen' type (now usually called simply IIa), are mostly of local manufacture, but the earliest must be later than the first appearance of this sword in the north, since Cowen has traced its uninterrupted development from the Middle Bronze Age. He has shown with great clarity how the Boiu sword of Reinecke Bronze B and Northern Bronze IIa, developed into Sprockhoff types Ia and Ib during the Reinecke C period (and Northern II bc) with Sprockhoff's IIa (Nenzingen) emerging in Bronze D. Again the real date at which this happened can only be computed back from the Aegean finds. The most authentically 'northern' of the Aegean swords comes from an undated context at Mycenae. The earliest dated example may be that found in a grave at Cos, and recently published by Professor Morricone, as Langada Grave 21. There are, as well as the sword, a 'northern' spear-head and some LH III B pots. The only other certainly III B sword is from Enkome, Cyprus (no. 27 of Catling's list) and this is in a late III B context. The Cos grave is that of a warrior, either a northman, or a southerner who had acquired northern war-gear. We cannot even guess whether he had taken part in the events of 1191, or whether he had been involved in an earlier adventure or, in view of the survival of LH III B in the Dodecanese, whether it was something even later. The same uncertainty applies to other northern swords in the Aegean and Levant.<sup>33</sup> There is nothing here that necessitates dating Reinecke Bronze D to the thirteenth century (see below p. 17).

In Sicily, Thapsos and Plemyrion are followed by Pantalica I; in Lipari there is Ausonian I; while in central Italy sub-Apennine and 'Proto-Villanovan' follows Apennine with, according to Hencken's latest work, the first Tarquinia graves (Villanovan I A) starting at the end of the tenth century, just before the appearance of the Early Geometric I of Attica. Mycenaean pottery can no longer be used for cross-reference after the mid-twelfth century, but the violin-bow fibulae and bronze mirrors found in early Pantalica contexts and unknown in 'sub-Mycenaean' Greece, are thought to confirm some sort of continuing contact corresponding to LH III C1. A movement from the coast up into the safety of the hills is proof of insecurity and unquiet times, with sea raiding in the central, as in the eastern, Mediterranean.

However, the bulk of the bronzes from Sicilian sites falls into later phases: arc fibulae from the mid-eleventh century, and even later, along with more developed knives and razors; so that although Pantalica *may* begin within the twelfth century, it was not fully extended till well on in the eleventh. The late violin-bow fibulae of Mühlau and Grossmugl, cited by Müller-Karpe, should synchronize Pantalica I and Hallstatt A1 and so, if Pantalica I overlaps the end of LH III C1, then Hallstatt A could begin just before the end of the twelfth century. These proposed datings are set out in the Table, Fig. 3.<sup>34</sup>

Whatever the hidden forces were that lie behind the changes of Reinecke D and the beginning of the European Late Bronze Age, they must have been to some extent contingent upon the disasters at the end of LH III B, and did not lie between fifty and a hundred years earlier, as they need to do if Bronze D began at the start of the thirteenth century. This is not to deny *some* northern contacts, either of mercenaries or raiders, in the generation *before* the Mycenaean breakdown, with which Dr Powell's Komarow pyre-grave invaders from over the Carpathians, and chieftain's burials, like those of Čaka and Ockov in Slovakia, may be linked. But if so these were the prelude, and I doubt very much if what followed was ever a full scale invasion of mainland Greece by northern barbarians but rather a matter of raids and harassment, or even one particularly devastating raid, with a very temporary occupation, followed by retreat with spoil and captives.<sup>35</sup> Some interchange and contact undoubtedly persisted to account for the few verified northern artefacts from both immediately before and after the Mycenaean breakdown; they were probably very limited in scale and duration.

It is after the worst outbreak of sea raids in the twelfth century that the real darkness comes, the hole in the chronological charts, when touch is lost with the Aegean, and behind the Aegean with Egypt. Greece is silent, preoccupied with new invaders or with a more primitive population that was growing up very quickly. As with its beginning, the end of the LH III C style has not escaped critical attack. The 'sub-Mycenaean' of older nomenclature has disappeared from many areas, notably

from Attica, where Protogeometric was beginning to emerge at the time that Argive Late Mycenaean III C was fading out, in the mid-eleventh century; so that some of the Kerameikos and Salamis graves are contemporary with a lingering III C. At the same time Late Cypriot III B was changing into Cypro-Geometric I, probably around 1050, that is to say. The Cypriot dates depend on cross-reference to Palestine, and here again fresh evidence may be expected. Within LH III C Desborough dates the destruction of the Granary at Mycenae ‘hardly earlier than c. 1150 and (it) could be as much as twenty years later’. The Dorian invasion then follows after no very long interval around, or soon after, 1100.<sup>36</sup>

To summarize the argument so far: I see no compelling reason for beginning Reinecke D before the twelfth century, over most of which it extends. Bronze C therefore is mostly of the thirteenth century; Hallstatt A, though beginning perhaps just within the twelfth, lies rather in the eleventh century, and the division between Hallstatt A and B would be very much where Müller-Karpe has it, around, or soon after, 1000 just when Greece had plunged into her darkest period, though this is purely speculative. A. Snodgrass concludes a study of ‘Barbarian Europe and Early Iron Age Greece’ by pointing out that ‘there are almost no objects found in Greece south of Olympus, with direct Central European or Balkan connections, which can be shown to date between 1000 and 750’; there is on the contrary ‘a disruption of communications and *a fortiori* an absence of intermigration, for most of this period, since Dark Age Greece presented few attractions for the conqueror, the craftsman or the raider’. Macedonia is not to be included in this generalization, and another exception may have to be made for commerce between Crete, Epirus, Sicily and south Italy.<sup>37</sup> Between the twelfth century and the foundations of the Greek cities overseas it is necessary to extrapolate from both ends. It is fairly clear what should go into the hole, and since Dr Hencken’s masterly survey (following the earlier work of Christopher Hawkes himself), it is becoming easier to surmise how long each of the phases should last, and what should go into them.

If this seems a rather shocking *dégringolade*, it does I believe make the historical events more rather than less comprehensible. It is in the late Thapsos phase, or rather the transition from Thapsos to Pantalica I after 1190, that we should look for possible refugees from the sea raids appearing around the Mediterranean shores, perhaps in ones and twos – single boatloads and family groups.

Tradition and linguistic evidence have pointed to north-west Greece as the homeland of the Dorians, and recently archaeology has begun to support them. The difficulty had been to find anywhere where burial in a cist-grave was still a popular rite, since Desborough has shown this to be the strongest single archaeological characteristic of the Dorians. Till recently four cist-graves in Greek Epirus, one in Yugoslavia and a handful in Greece itself were all that could be counted, but now

the work of S. Dakaris in Epirus and the Albanian work of Frano Prendi, first made known here by Professor Nicholas Hammond, have radically altered the situation. There is far more reason now than could have been suspected a few years ago for recognizing Mycenaean interest in the direction of the Adriatic, perhaps from as early as the sixteenth century.

Dakaris has collected details of ten Mycenaean swords and daggers from Epirus, many from cist-graves, beginning with two, or (more probably) four horned swords.<sup>38</sup> In Albania there is a long series of cist-graves in tumuli, and the Mycenaean link begins with graves at Vajzë and Pazhok with authentic Mycenaean rapiers of 'A' type, a Mycenaean javelin, 'paste' (faience?) beads, and an LH I-II A cup.<sup>39</sup> A true cruciform sword comes from an Albanian cist further north in the Mati valley which, though damaged, looks like an early variant before the adoption of the T-flanged pommel (type Di). It should therefore be broadly contemporary with the horned sword from Tetovo near Skopje in Yugoslavia, eighty mountainous miles to the east.<sup>40</sup> From rather later Dakaris has cists at Paramythia near Ioannina, with LH III A-B pottery, a dagger with a T-flanged extension (type Eii) and a socketed spearhead of the type dubbed 'northern'.<sup>41</sup> There is also provincial late III B pottery at Dodona and from a tholos tomb at Kiperi near Parga, again with a 'northern' spearhead.

Dakaris thinks there is evidence enough for actual Mycenaean settlement on the older site below Mount Kastritsa, and that it may have survived till classical times, still imitating its ancient Mycenaean pots. At Kastritsa there is also a cist-grave with III B to III C sherds, and from yet another cist comes a late type of Mycenaean dagger (type F). This is the same type as was associated with LH III C 1 pottery at Perati in east Attica. Dakaris thinks the Epirote dagger is a little earlier. There are signs of Mycenaean settlement also near the coast, in the lower valley of the Acheron at Likouresi, perhaps the ancient Ephyra, where Mycenaean sherds were found, and on the acropolis another F dagger. These are in addition to the well-known cist-grave at Kalbaki with its late (type F) dagger.

It is quite possible that these later finds, the III C pottery and the F type daggers, are all twelfth century and due to the influx of refugees from the older Mycenaean centres which followed the first great wave of destruction when Tiryns and Mycenae fell;<sup>42</sup> the same which brought refugees to the Ionian islands.

Late Mycenaean daggers and pottery are not found further north, but flange-hilted swords which are variants of the Sprockhoff II A sword are found in cist-graves in tumuli. There is one from Tseravina north of Ioannina, and others in Albania. One comes from a warrior-grave at Kakavi on the upper Drin with some fragments of bossed bronze sheet and decorated bone which may be part of the sheath, also an iron tweezer and a small iron knife with a bronze rivet shaped rather like the bronze

knife from Kalbaki. Two other swords come from Vajzë, one in a tumulus with another small bossed bronze sheet, and there are others again at Vodhinë and Radalyska.<sup>43</sup> Professor Hammond believes these to be the tombs of northern warriors on their way down to plunder and destroy in Mycenaean Greece, but there are difficulties about this. The illustrations, though better in the Albanian publications, do not allow certainty; however, from what can be made out all these swords look like late examples, and quite distinctly later than the first Type II swords to reach the Aegean. Dr Catling finds no example, except possibly a sword from Scutari (Group I) and (with even greater reservation) one from Tseravina (a very late Group IV) that can be allotted to any of his four canonical groups. The other swords from Vajzë, and Kakavi are quite uncanonical and typologically very late like the bronze sword from Vergina near Verroia (Cist D in Tumulus C). Some may already be contemporary with the Iron Age of Greece. Dr Catling writes 'I am mainly concerned, however, to demonstrate that the majority of Epirote (i.e. Albanian) Type II swords belong to a movement away from Greece at the very end of the Late Bronze Age, and are not part of the earlier activities which first brought this class of weapon to Greece'.<sup>44</sup> Most of these swords are therefore too indeterminate to be datable at all and some even look to be closer to Geometric *iron* swords.

If these objects do not support north to south ventures in the Adriatic, they *do* throw a little light on traffic from east to west; and it may be that we should look to Italy for their nearest relations. I think we can dismiss the inhabitants of Greek Epirus and Albania from the numbers of the Sea Raiders, for on their way south they would have collided with fugitives on the move north-westward who already possessed *earlier* versions of Type II swords (Group II). In as much as these exotic objects from cist-graves are Aegean at all, they are more likely to belong to the backlash of invasion than the advance guard, to fugitives rather than pioneers. Their chief interest is for later history as providing a background, a jumping-off point for those cist-burying invaders who were to settle so much of mainland Greece in the eleventh century, alongside a backward indigenous population just emerging from the shadow of Mycenaean civilization.<sup>45</sup>

No discussion of the end of the Mycenaean age and the beginning of Late Bronze Age Europe can avoid the Trojan problem. Just as the pattern of settlement in western Greece and the refugee movement to the north-west make it difficult to introduce invaders from that quarter before the end of the twelfth century, so too the strong impression of peace and continuity in the islands of the south Aegean and at Miletus, as well as at Perati in eastern Attica, make any massive sea-borne invasion from the north-east unlikely. The date of the fall of 'Priam's City', Blegen's Troy VII a, which is 'the only recognizable sack of Troy at near the period assigned by tradition', is one of the most debated dates in ancient history. Blegen suggested 1240 in the



Troy publication, but has since raised this to c. 1250. The dating depends on the alleged absence of LH III C pottery, either imported or locally imitated, and the presence of III B and a little III A. The somewhat analogous position in the Levant with regard to imported LH III pottery warns against using the III A sherds to raise dates unduly, while on the other hand this is not a particularly early III B. Miss Dorothea Gray considers that the III A of Troy VII a is uncharacteristic, due to the conservatism of local pottery 'copying copies of copies', and that the material must be dated by the imported III B pottery; while Professor Furumark has been quoted as saying that there is no LH III A, and C. Nylander claims that, on the contrary some LH III C1 is present in Troy VII a,<sup>46</sup> F. Stubbings chooses the traditional date of 1185 for the sack of VII a and Miss Gray agrees with this date. It is possible that even this is too high, if there really is LH III C pottery before the sack.

It is however with the period following the 'Homeric' sack that I am interested at present. Troy VII b1 immediately succeeds Troy VII a, and was not, according to Blegen, a long occupation, perhaps a generation. In those areas where the stratigraphy is least difficult to read there is no imported LH III B, and very little III C, but the local pottery is much influenced by the Mycenaean 'Granary' class. If the Granary was destroyed around 1150 (see above) part at any rate of the VII b1 level should overlap with its existence. Miss Gray would have it wholly within the twelfth century, and this is surely right.<sup>47</sup> So now if, with Stubbings, we take 1180 for the change from LH III B to III C, then a lapse of one generation takes Troy VII b1 down to 1155 or a little later. How much later depends on the value we give to any LH III C imported to Troy VII b2 (the level with intrusive 'knobbed ware'). Blegen has claimed that a little III C of Granary class *was* found, but the area from which it comes (house 769) was disturbed and anomalous. After very detailed study of the stratigraphy Miss Gray comes to the conclusion that the evidence from this house hardly outweighs 'the clear testimony of the well-stratified areas that Mycenaean and knobbed ware are not contemporary'. This is very important, for it means that theoretically Troy VII b1 can last well down into the second half of the twelfth century. If Troy VII b2 is given a life of two or three generations, this will cover the end of the twelfth century and may well last into the eleventh. There is also continuity of building between the two phases of VII b.

It is essential to distinguish what is really new in VII b2 from what is simply primitive or poor quality. Spurred and knobbed handles are neither new nor intrusive; they exist in the tan ware of VII a, and the fine grey Minyan of even earlier.<sup>48</sup> Coarse hand-made kitchen ware is not new, nor are twisted handles, like those found also in the burnt layer at Vardaroftsa in Macedonia. These descend from local Anatolian and Balkan wares of the Early and Middle Bronze Age, and were probably still being used by Troy's more rustic neighbours. That local varieties of hand-

made pottery were also in use during the later phases of Mycenaean civilization in Greece has been pointed out recently by Mr Hood.<sup>49</sup>

The Macedonian twisted handles are often compared to the Baierdorf and Velatice pottery of the Middle Danube, but the latter is exceptionally fine, with elegant shapes. On the other hand there is very little indeed in common between the crisp, dark-faced pots of the Ockov barrow in Slovakia and the heavy, clumsy, pinkish Vardaroftsa wares, let alone the wretched pots of Troy VII b (fig. 1: A-D with E-K). All are hand-made and some have twisted handles and knobs, but that is the extent of the similarity.<sup>50</sup>

The really new features in the pottery of Troy VII b2 are: a handle with an overhanging flap, zigzag incised decoration, circles joined by tangents making a false running spiral, soft rilling and bosses surrounded by rilled circles (fig. 2: C-E, G-I, K, N; fig. 1: M, O).

The self-same features exist also in pottery found at Babadag in southern Rumania. Babadag is a large fortified Thracian oppidum, a promontory fort standing on the edge of a lake in the Dobrogea near the mouth of the Danube.<sup>51</sup> The occupation can be divided into two major phases with six habitation levels. It is unique for its size and depth of occupation. In the Rumanian sequence it follows, and overrides, the end of the Noua culture; while its latest phase is contemporary with the Basarabi early Iron Age culture. A number of other sites have 'Babadag' pottery, and most are concentrated on the lower Danube, but there is also a small group to the north up the Pruth with pots of the middle Babadag style; and it is suggested that at this time Babadag influence extended to the Dnieper.

When the rich and splendid cultures of the Rumanian High Bronze Age, Monteoru, Wietenberg, Tei, Otomani and the rest, came to an end they were followed by the much plainer Noua culture which included an intrusive eastern element stemming, perhaps, from Timber-Grave people in the Volga-Don region. However, it also inherited certain shapes of pots and their decoration from the older local cultures. The new eastern element brought with it sack-pots and bone-work. Whether it caused, or merely took advantage of, the disintegration of old sites like Monteoru, is uncertain, but long established settlements were abandoned at this time. What the new culture took over from the earlier pottery, especially that of Monteoru and Wietenberg, was its incised decoration, the two-handled mug, and a handle with an overlapping flap, and these were used alongside a more barbarous pottery, cups with knobbed handles and so on.<sup>52</sup>

S. Morintz, the excavator of Babadag, has pointed out that the pottery, while it is quite unlike the Pecica pots of western Rumania and the Gava of Hungary, has a remarkable likeness to the intrusive 'foreign' pots of Troy VII b2: common features are handles with a vestigial flap derived from Monteoru (fig. 2: A-C, J-K), incised

zigzag decoration, circles joined with tangents into false spirals, bosses surrounded by rilling, and two-handled mugs (though the last are less significant) (fig. 1: M-P; fig. 2: C-H, N-Q). The pottery of the middle Babadag levels has similar patterns but carried out with impressed and twisted cord, and the pots of the upper levels are, for the most part, undecorated. The first iron with waste from iron reduction comes

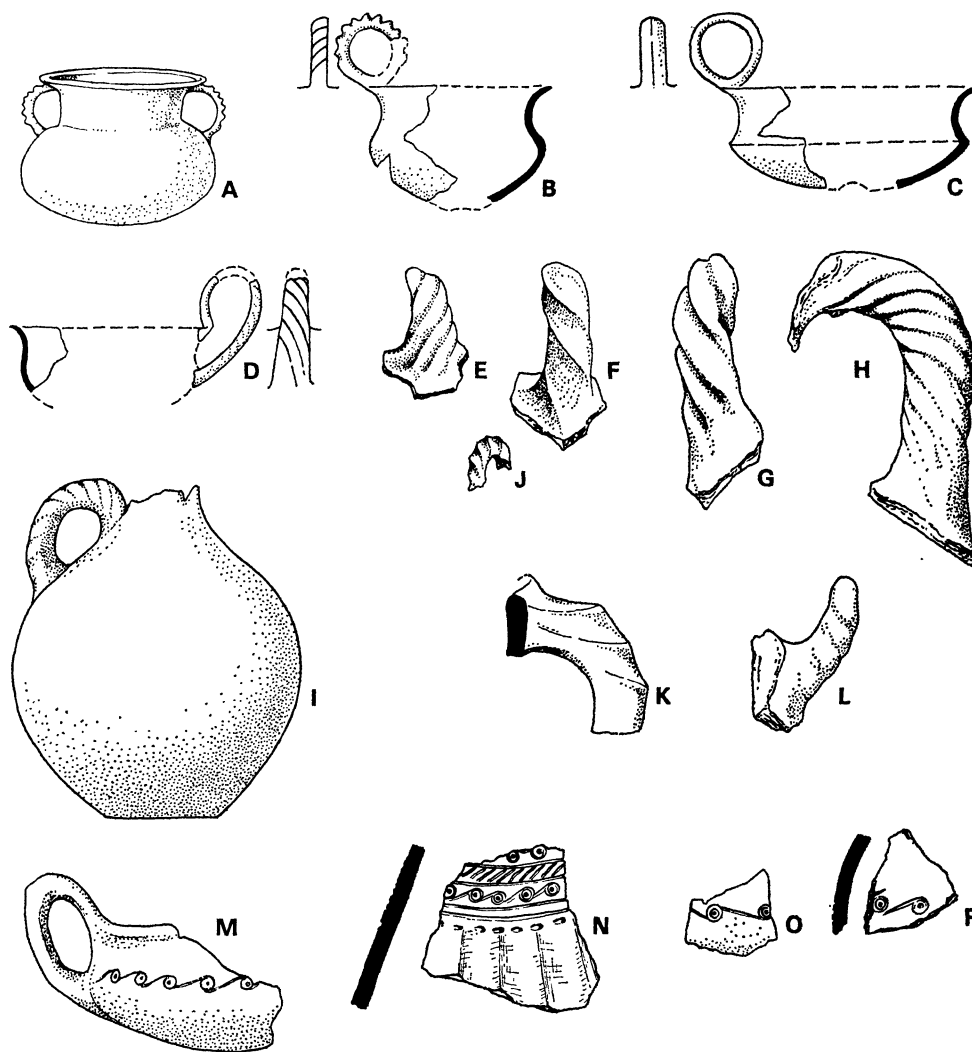


Figure 1. A-D, Ockov; E, F, J, K, Vardaroftsa; G-I, M, O, Troy; L, N, P, Babadag. (A, Paulik, *Slov. Arch.* (1962) fig. 17; B-D, *ibid.* pl. III; E, F, J, Heurtley, *Preh. Mac.* (1939) fig. 87; G, H, Blegen, *Troy IV* fig. 272, I, fig. 263, M, fig. 280, O, fig. 282; L, Morintz, *Dacia* (1964) fig. 6, N, P, fig. 7; K, Hagios Georgios, Salonica)

Scale: A circa 1:10 the rest circa 1:4

in the middle levels, a position similar to that of the iron foundry at Cernatu, another defended Rumanian site.<sup>53</sup>

Morintz begins Babadag in the eleventh century and ends it in the eighth, while Berciu begins it in the twelfth century.<sup>54</sup> But here at once we meet the prime difficulty described earlier in this article, which is that the system of chronology used here on the Black Sea shores is still that drawn up by Müller-Karpe for southern Germany and the Alpine zone: Bronze D, Hallstatt A 1 and A 2 and so on. In consequence we find in Berciu's chart Babadag I aligned with Reinecke A 1 in the twelfth century, along with Noua III, Suciu de Sus etc., and Babadag II aligned with Hallstatt A 2 in the eleventh century. Morintz, on the other hand, postulates a hypo-

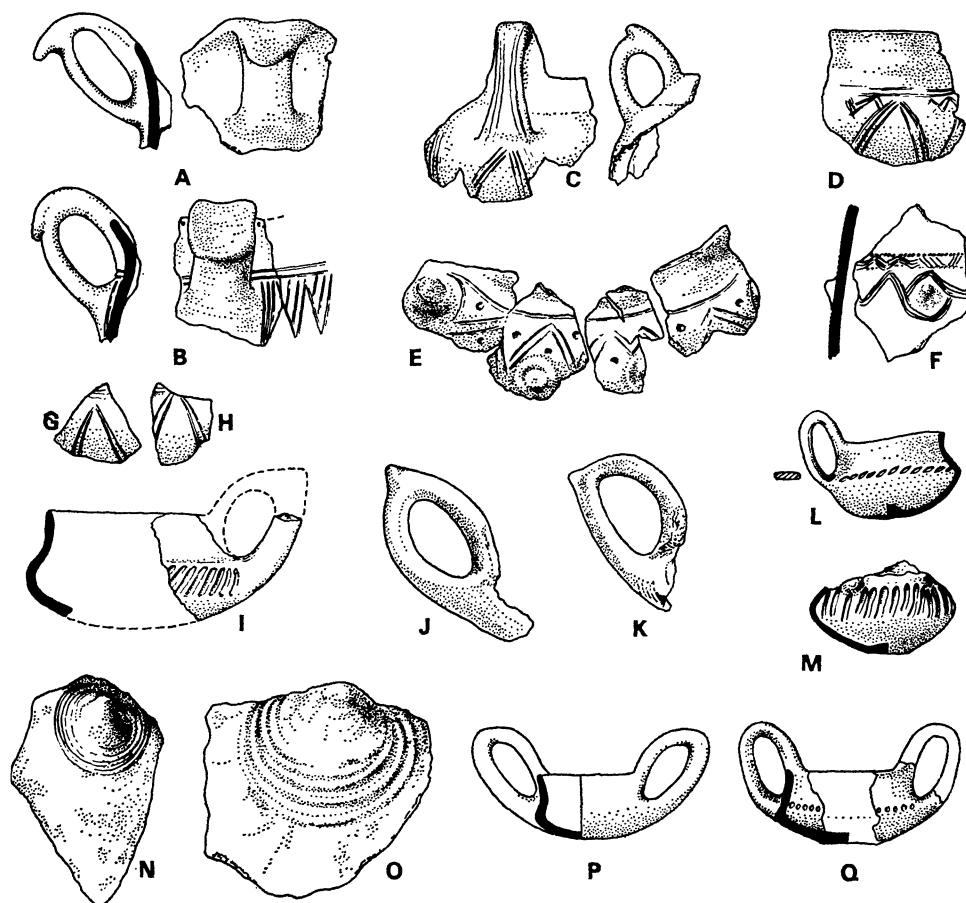


Figure 2. A, B, Monteoru; C-E, G-I, K, N, P, Troy; F, J, L, M, O, Q, Babadag. (A, B, Vulpe, *Dacia* (1961) fig. 3; C, D, Blegen, *Troy IV* fig. 259, E, fig. 280, G, K, fig. 281, I, P, fig. 288, N, fig. 282; F, Morintz, *Dacia* (1964) fig. 7, J, O, fig. 6, L, M, Q, fig. 5)

Scales: various

thetical cultural level intermediate between Noua and the earliest Babadag, and closely related to Troy VII b dated to the twelfth, and perhaps part of the eleventh century; he then describes early Babadag as 'early Hallstatt' eleventh century. The middle Babadag levels with twisted cord decoration and iron-working then correspond to Hallstatt B in the tenth and ninth century, and the end overrides the early Basarabi culture of the eighth to seventh century.

The chain of evidence from which these dates (however rough) are calculated has therefore to be traced back up the length of the Danube into southern Germany, over the Alps and down into Italy, and finally back to the Aegean and Egypt. This is a long *détour* from the mouth of the Danube, itself only a short direct voyage from Troy and the Aegean; and if ever it should be possible to find more direct methods of dating between Rumania and the eastern Mediterranean, they would stand a chance of far greater reliability.

It has always been difficult to reconcile the miserable pottery of Troy VII b2 with the brilliant tradition of east and central Europe at the close of the Middle Bronze Age, but the poor uninspired wares of the Noua potters and the partial resurgence of older traditions at Babadag give just the required material for comparison. Till recently this pottery was not known in Bulgaria, but it has now come to light at two sites, Pšenicevo and Gabarevo, so that a common source for both may one day be found independently of central European (Hallstatt) influences, the gap being due to lack of excavation. There is a widely diffused and very general likeness in the poorer potting throughout the eastern Balkans, and this goes also for north-west Anatolia and the Troad, but I do not think this is enough to explain the great similarities we have seen.<sup>55</sup> The explanation may be migration by sea as well as by land. A party from the lower Danube may have taken to the boats and sailed away to Troy. These people are known to be fish-eaters, they lived both on, and near, the Danube and had a sea coast. This was an age of piracy and it is inconceivable that they were not also seamen.

According then to the proposed reconstruction of events, we see a Middle Bronze Age movement westward from the Timber-Grave regions of the Volga and Don which led eventually to the break-up of Monteoru, Otomani and the other High Bronze Age cultures. From this mixture there came the Noua culture, and from Noua in turn, and still incorporating elements of older local cultures, there arose the Babadag settlements of the Dobrogea. At the time of the founding of these sites a group of people, perhaps quite few in numbers, sailed south to the Troad, and possibly on to Macedonia. If this was in the middle of the twelfth century, or even in its second half, as seems more probable, it coincides with the probable date for the beginning of Troy VII b2. This is rather later than Berciu's date for Babadag I and earlier than that of Morintz but, as already remarked, both writers get their chrono-

logy from Müller-Karpe's system. Noua, aligned with Reinecke D as it usually is, lies more in the twelfth century than the thirteenth, though it may have begun before 1200. Babadag I runs from the late twelfth through the eleventh century. But now recourse has to be made (as in Italy in the same centuries), to extrapolation, and with a good deal more uncertainty; but the iron-working of middle Babadag would belong to the tenth century, and late Babadag meets Basarabi in the ninth, with full Basarabi following in the eighth century (see Table, p. 25).

Tenth century iron may appear over early, but is not so surprising if we take account of the view, supported by Snodgrass, that Macedonia was an *early* centre of iron-working independent of the rest of Greece, with some of the earliest traces of iron-working in the Aegean at Vardaroftsa, where some slags are contemporary with the latest Mycenaean at that site, antedating the earliest tombs at Vergina, as well as from the period immediately following. This would fit in well with contact between the lower Danube and the Troad in the late twelfth and in the eleventh century at just the time the Vardaroftsa foundries were working. The iron of Babadag and Cernatu would also be more or less contemporary with iron in Villanovan I a.<sup>56</sup> This argument is of course all highly tentative and provisional.

To sum up the beginnings of the Late Bronze Age put forward in this article: it was essentially a time of troubles with many confusing shifts of population, set in motion perhaps in the first place by local dearth and overpopulation. It brought the Hittite Empire down, ended the security of the Aegean, and in Europe the old High Bronze Age cultures disappeared and newcomers came from north and east, among them the eastern element in the Noua make-up, the Komarow pyre-grave princes, and other new groups to the middle Danube.<sup>57</sup> Individual northerners may have found their way to the Aegean as mercenaries and adventurers, and have introduced some of their northern gear. Then in the first decades of the twelfth century there was a disastrous attack on all the centres of Mycenaean civilization (at the end of LH III B) and on the Troad, probably from several different directions, but quite possibly including a raid from as far as the middle Danube and the (equally important) return of the raiders, loaded with spoil and captive craftsmen. This brought about a great scattering of fugitives from the mainland of Greece, some to settle in the nearer islands, others in the Levant to join with quite different parties of landmen, on the move with wagons and families, or with pirates from the Anatolian coasts.

In the following decades there were other movements now embracing more distant islands: Sicily, Sardinia, and the south of Italy. It is in this second phase, and the aftermath of the defeat of the Sea Peoples in the Nile delta, that we look for Shardana sailing to Sardinia and forerunners of the Etruscans in Italy. Their settlements might be roughly contemporary with the 'Philistine' pottery of the Levant, and not much earlier than the emergence of the Dorians in Greece. Such a situation

would explain the absence of LH III C pottery from Sicily, for fugitives do not bring their pots, but do bring weapons, bangles and tools, some of which occur in the early Pantalica, Timmari and Pianello phases. Taranto, on the other hand, may have kept up its commercial contacts, if only with the Ionian islands, for potters at Scoglio del Tonno and Castelluccia were imitating Mycenaean pots for almost as long as the people of Greek Epirus.

Another movement of northerners, perhaps directly from the mouth of the Danube, brought new people to Troy, (VII b2), while a combination of factors, but chiefly, I think, the refugee movement from the Aegean, provided the irritant that

### Chronology after Müller-Karpe 1959

<i>Cents. B.C.</i>	<i>Mycenaean Styles</i>	<i>Sicily and Italy</i>				<i>Transmontane Periods</i>	
14th	L.H.III A2	Thapsos/Cozzo del Pantano/	Scoglio del Tonno (beg.)	Belverde/ <i>Terremare</i> /	Peschiera Boccatura		Bronze C
			Torre Castelluccia	Filottrano	del Mincio	Riegsee Baierdorf Urnfields I	Bronze D
13th	L.H.III A2 (Late)	Matrensa Plemyrion					
	L.H.III B L.H.III C1b						
12th		Pantalica I	Timmari I	Pianello I		Grossmugl Urnfields II	Hallstatt A1
	L.H.III C						
11th	sub-Mycen- aeon	Pantalica II/Monte Dessucri	Timmari II	Pianello II	Bismantova/ Fontanella	Urnfields III	Hallstatt A2
						a	
10th	Proto- Geometric		Rome, Alban Hills I	Terni I Allumiere Tolfa		b	Hallstatt B1
9th	Geometric	Pantalica III/Cassibile	Cumae (Pre- Hellenic I) Alban Hills II	Tarquini I	Este I		Hallstatt B2
8th	Late Geo- metric	Finocchito	Cumae (Pre- Hellenic II) Alban Hills III	Tarquini II	Este II	Urnfields IV	Hallstatt B3
	Orientalizing						

Figure 3

set the cist-burying inhabitants of Albania and Greek Epirus travelling south into the political vacuum left by the break-up of the Mycenaean order, or else settling permanently where formerly they were seasonal visitors. They may have been accompanied by some returning refugees (or their descendants), in whom we may see a 'Return of the Heracleidae'. Such men would have kept fresh the memory of that lost Mycenaean world of grandeur and prosperity.

The beginning of the European Late Bronze Age is as much a revolution in techniques as of people; a massive adoption of new bronze-working methods derived almost certainly from Greece, with forging and hammering in place of casting bronze

### Proposed Chronology (N.K.S. 1969)

<i>Centrs. B.C.</i>	<i>Mycenaean Styles</i>	<i>Sicily and Italy</i>			<i>Transmontane Periods</i>
14th	L.H.III A				
13th	L.H.III B (III A2 surviving)	Thapsos	Scoglio del Tonno	Apennine culture <i>Terremare</i> Peschiera	Bronze C
					Čaka?
12th	Sack of Troy VIIa, c.1180 L.H.III C (Granary)				Riegsee Bronze Baierdorf D
		Pantalica I	Timmari I Pianello I	sub-Apennine	Grossmugl Hallstatt A
11th	Proto- Geometric				
		Pantalica II	Timmari II Pianello II	Allumiere? Alban Hills I (begins?)	Hallstatt B
10th					
		Pantalica III		Tarquinia (oldest graves) Villanovan Iron	
9th	Early Geometric I (Attica)			Age I (to 800)	
8th	Middle Geometric II (Attica)/Proto- Geometric (W. Greek etc.)	Finocchito Pantalica III ends c.730		Villanovan II (to 720)	Hallstatt C



and the vast specialized hoards of sickles and knives that speak of a far more intensive agriculture. An enormously increased level of commerce between the Danube and the Aegean *could* have brought this about, but seems unlikely in a period of such political upheaval and unrest; and for this reason I have suggested the forcible capture and transplanting of craftsmen following some special attack or raid to account for the changes. Moreover I do not see that we have any evidence, at present, for dating the beginning of this European revolution earlier than the twelfth century.

It is an untidy picture that we are left with; we are still juggling with fragments of mosaic and it is too soon to see an overall pattern, but the 'fatal blank' with which this article began is still very slightly and slowly contracting.<sup>58</sup>

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I have received invaluable advice and assistance in the writing of this article from Dr Hector Catling, Mr John Cowen, Mr Vincent Desborough, Miss Dorothea Gray, Dr J. Harris and Dr T. G. E. Powell; and I am especially indebted to Mr Eliezer Oren for allowing me to use some of the conclusions of his forthcoming authoritative publication of Beth Shan. I also thank Drs J. Bouzek and P. Kalligas for advice. The pottery on Figures 1 and 2 has been redrawn by Mrs P. Clarke.

## Notes

- 1 *Proceedings of the Prehistoric Society* N.S. XIV (1948), 196 (hereafter cited *PPS*).
- 2 *University of London Institute of Archaeology, Second Annual Report 1938* (1939), 58.
- 3 This last problem seems to have been settled in favour of the higher date; see the strong argument put forward by J. R. Harris, *Journal of Egyptian Archaeology* 54 (1968), 95. I am grateful to Dr Harris for his advice on this and other Egyptian dates.
- 4 V. d'A. Desborough, *The Last Mycenaeans and Their Successors* (1964) (hereafter cited *LMS*).
- 5 Desborough, *PPS* XXXI (1965), 213.
- 6 A. Snodgrass, *PPS* XXXI (1965), 229.
- 7 N. G. L. Hammond, *CAH* revised Edition (1962), vol. II, chapter 36, 27; and J. H. Breasted, *Ancient Records of Egypt* (1906), vol. III, 580.
- 8 H. W. Catling, *Archaeometry* 4 (1961), 31; *ibid.* 6 (1963) etc., *idem*, *BSA* 55 (1960), 108, with Dr V. Karageorghis.
- 9 N. G. L. Hammond, *Epirus* (1967); V. Hankey, 'Mycenaean Pottery in the Middle East', *BSA* 62 (1967), 107.
- 10 F. Stubbings, *CAH*, vol. I, chapter 6, 75; Dr J. R. Harris in correspondence advises me that there are no real grounds for assigning *any* LH III B group at Ghurāb to a period earlier than the reign of Ramesses II, and that the Ghurāb evidence in no way conflicts with that of El-Amarna, so that the transition from III A to III B can

- be placed between the accession of Tutankhamūn and the early years of Ramesses II, who succeeded in 1304; see also n. 3 above.
- 11 F. Stubbings, *loc. cit.*, Desborough, *LMS*, 240 f., etc.
  - 12 V. Hankey, *loc. cit.* n. 9, *passim*.
  - 13 J. Nougayrol, *Ugaritica* V (1968), 79 f.
  - 14 See Desborough, *LMS*, 104 f. for Kephallenia, (where the Mycenaean pottery is mostly III C, but not the latest III C), with Hankey, *loc. cit.* 126, n. 36.
  - 15 O. Tufnell, *Lachish IV*, 37; this date has been questioned but appears sound.
  - 16 Mr E. Oren has most kindly given me advance information from his major publication of Beth Shan, which will appear shortly; see also V. Hankey, *loc. cit.* 113. In the reports of Tell Sukas, published in the *Annales Archéologiques de Syrie* 1958–59, the low Egyptian dates are used, according to which Ramesses III began to reign in 1172, see n. 3 above.
  - 17 There are some encouraging signs that it may be possible to arrive at dates for the ‘Philistine pottery style’ independently of the LH III C pottery from which it adopted so much of its character, thus escaping the circular argument.
  - 18 H. Hencken, *Tarquiniā, Villanovans and Early Etruscans* (1968), vol. II, 434 f. see also n. 34 below.
  - 19 H. Müller-Karpe, *Beiträge zur Chronologie der Urnenfelderzeit nördlich und südlich der Alpen* (1959), *passim*, but with especial reference to the chronological section 226 (hereafter cited as *Beiträge*).
  - 20 Müller-Karpe, *Beiträge*, 113 and 226; *idem*, *Germania* 40 (1962), 271.
  - 21 K. Randsborg, *Acta Arch.* 38 (1967), 1, on the Ørskovhede hus sword; Mr J. D. Cowen has given me valuable advice on the European connections and stylistic rating of the swords, laying especial stress on the shoulder flange. The position of these swords vis à vis Sprockhoff I b lies outside the present argument.
  - 22 N. K. Sandars, *AJA* 67 (1963), 130 and 143, *BSA* 53–4 (1958–9), 232, the comparison being made here is with Type Dii.
  - 23 Randsborg, *loc. cit.* 20.
  - 24 Müller-Karpe, *Beiträge*, 76 f., 89 f., 149–150.
  - 25 Lord William Taylour, *Mycenaean Pottery in Italy and Adjacent Areas* (1958), 128, 183 f; a memory of Mycenaean pottery styles survived at Taranto into the Greek Geometric period.
  - 26 Desborough, *LMS*, 6, 153, 155.
  - 27 Müller-Karpe, *Beiträge*, pl. 13:17; Catling, *BSA* 63 (1968), 105 the latest full discussion of swords and spears; the markedly triangular tip of the Cretan spears is not known to me from Europe, but the Scoglio del Tonno type is fairly common also in north Italy, G. Säflund, *Le Terremare* (1939), pl. 50, 6 etc.
  - 28 Müller-Karpe, *Beiträge*, pl. 13:9, 10; cf. Sandars *PPS* XXXII (1965), 174, classes 1a and 1b respectively; also *BSA* 53–4 (1958–9), 194, fig. 32, from Gypsades.
  - 29 Müller-Karpe, *Beiträge*, 34 f.; after rejecting various attempts to construct a stratigraphy out of Scoglio del Tonno, the author inexplicably states that the whole complex from this site ‘zeigte sich, dass diese Siedlung mit mykenischer Keramik der Amarnazeit, mit italischer verzierter Keramik vom apenninischen Typus, und mit Bronzen des reinen Peschierahorizontes beginnt’, my italics.
  - 30 Hencken, *op. cit.* above n. 18, chapter 21 and chart p. 457.

- 31 Müller-Karpe, *Beiträge*, 113; *idem*, *Germania* 40 (1962), 272; W. von Brunn, *Mitteldutsche Hortfunde der jüngeren Bronzezeit* (1968), text 344 and 338.
- 32 A. Snodgrass, *Early Greek Armour and Weapons* (1964), 209 gives eleventh century; Desborough, *PPS* XXXI (1965), 224 has c. 1100.
- 33 H. Catling, *Antiq.* 35 (1961), 115; J. D. Cowen *BRGK* 1955 (1956), 52 f. and *idem* *PPS* XXXII (1966), 262. See now L. Morricone, *Annuario della Scuola Archeologica di Atene* N.S. 43-44 (1965-6), 136.
- 34 Müller-Karpe, *Beiträge*, pp. 161, 228, the suggested Pantalica dates are somewhat lower than Hencken's chart (n. 30) and above p. 9, but the latter's argument (*op. cit.* vol. II, 434) produces no direct LH III B contacts, but only local pottery that may go back to Mycenaean III B types in Cyprus. The Trojan material, to be discussed below, demonstrates the uncertain value for chronology of such influences. In Müller-Karpe's chart, *Beiträge, Text*, fig. 64, the eleventh century is remarkably thin in Italy, and there should be room for the amount of compression entailed by starting the dates of Pantalica I, Timmari I, Pianello I etc. rather later. For the end of Villanovan I around 800, I follow Miss Close-Brooks and Mr David Ridgway, based on imported middle Geometric vases in Veii Ila graves (800-760), *Studi Etruschi* 35 (1968), 307 f. and a lecture to the Prehistoric Society by Miss Close-Brooks in 1968.
- 35 Sandars, *Antiquity* 38 (1964), 258 for this argument.
- 36 Desborough, *LMS*, 17, 197, 241; Snodgrass, *loc. cit.*, n. 6, 229; J. N. Coldstream, *Greek Geometric Pottery* (1968), chart p. 330, etc.
- 37 Snodgrass, *loc. cit.* n. 6, 237; Hencken, *op. cit.* n. 18, 461, 467; see also below p. 17.
- 38 S. Dakaris, *PPS* 33 (1967), 30. Yet another horned sword (type Cii) has come to light recently in a cist near Grevena, K. Romiopoulou, *AE* (1969), 12; and a cruciform sword (Di ? but it is without midrib) in another cist at Mazarakiou, Epirus, with provincial late III B and local pots, J. Vocotopoulou, *AE* (1969), 179.
- 39 F. Prendi, *Buletin për Shkencat Shqiptërore, Tiranë* (1957) ii, 76 hereafter *BUSS*; N. Hammond, *BSA* 62 (1967), 77.
- 40 Prendi, *BUSS* (1955) i, 110; Sandars, *AJA*, 67 (1963), 120.
- 41 Sandars, *loc. cit.* list p. 149: Dakaris, *loc. cit.* (n. 38), 34, and 35, n. 3. Catling, above n. 27.
- 42 Dakaris uses Furumark's high chronology so that he has thirteenth century where I would say twelfth; for this reason also he dates the large Acropolis hoard too early; neither the Type II sword, nor the violin-bow fibula need date before the early twelfth century if the hoard was hidden 'when pottery of III C was beginning to displace the wares of III B'. The spears cannot be used for purposes of dating.
- 43 Prendi, *Buletin i Universitetit Shtëtor të Tiranës, Seria Shkencat Shqiptërore*, (1959) ii, 193; *idem*, *BUSS* (1957) ii, 76, fig. 19; Hammond, *Epirus* (n. 9), 212, 350 and general discussion 353.
- 44 Catling, *PPS* XXXII (1956), 102, and for critical assessment, Catling, above n. 27.
- 45 There is no case for calling on an unknown northern people, related to the, alas not yet defunct, 'Lausitz' invaders of Macedonia, and bringing them into Epirus via Albania, with 'Hungarian' battle axes; nor can I see much reason to take these same people due east to settle Vergina in Macedonia. The Vergina pottery is mostly of local tradition, and what is new and northern will have come down the Vardar, like the spectacle fibulae; cf. Hammond, *Epirus*, 392, and see note 50 below.

- 46 C. Nylander, *Antiq.* 37 (1963), 7, see also C. Blegen *et. al.*, *Troy Settlements VII a VIIb and VIII* (1958) IV, 12; and *CAH* (1961), (from vols I and II, 14).
- 47 I am indebted to Miss Dorothea Gray for allowing me to make use of an unpublished lecture given by her in 1961 on 'Some questions about Homeric Troy', in which, relying entirely on the evidence given in *Troy IV*, she discussed the stratigraphy and its chronological implications. She also came to the conclusion that Troy VII b 1 was 'at present undatable'. For the destruction of the Granary c. 1150 or 'as much as 20 years later' see Desborough, *LMS*, 241. See now also E. Wace French *Arch. Anz.* (1969) 2, 133, for post-destruction but pre-III C 'close style' at Mycenae and hand-made pots like Troy VII b 1.
- 48 *Troy IV*, fig. 237:23-26 and pp. 79, 85; fig. 253:6 Troy VII a; fig. 271:16-20 and pp. 189-190, Troy VII b 1.
- 49 *Ibid.*, fig. 272:19-21, p. 185-9 Troy VII b 1; W. A. Heurtley, *Prehistoric Macedonia* (1939), fig. 87. Mr Sinclair Hood had suggested looking especially to Bulgaria, *Europa, Festschrift für Ernst Grumach* (1967), 122 n. 17; the knobbed and twisted handles are also known in Anatolia, and in Bronze Age Bulgaria where their date is probably very much earlier (Troy I-II), see the Ezero Mound, G. I. Georgiev and N. J. Merpert, *Antiq.* 40 (1966), 33, fig. 1, but the tradition may have survived a long time, see n. 55 below.
- 50 J. Paulik, *Slov. Arch.* X (1962) 5; I was fortunate in being able to handle the Vardaroftsa pottery at Salonica in 1955. J. Bouzek, *Homerisches Griechenland* (1969), 69; this important study appeared too recently for discussion here. Dr Bouzek assures me that the *coarser* pots of Ockov and Baierdorf types do really approximate to the coarse wares of Macedonia with twisted handles.
- 51 S. Morintz, *Dacia* N. S. VIII (1964), 101.
- 52 A. Vulpe, *Dacia* N.S. V (1961), 105 f., fig. 3, cf Morintz, *loc. cit.* fig. 6:1 and 7:8; A. Florescu, *Arheologia Moldovei* II-III (1964) 143, in a general account of the Noua culture gives the background of these happenings. The Noua sack-pots of his fig. 4:2-4 are very like Hencken's 'bucket-pots with four handles', *Tarquinia*, fig. 461.
- 53 Z. Székely, *Dacia* N.S. X (1966), 209.
- 54 D. Berciu, *Romania before Burébiata* (1967), Table fig. 51, p. 109: Florescu also brings Noua down to the end of the twelfth century.
- 55 D. Dimitrov, *Archeologiya* 4 (1968) 4, 1 f.
- 56 Snodgrass, n. 6 above; Hencken, *Tarquinia*, 570 f.
- 57 T. G. E. Powell, *PPS* XXIX (1963), 214.
- 58 Many more LBA cists have been found since this was written in 1968.



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# The first European body-armour

*A. M. Snodgrass*



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Over twenty years have now passed since Professor Hawkes delivered to the Pre-historic Society's London conference his well-known paper 'From Bronze Age to Iron Age: Middle Europe, Italy and the North and West'. The starting point of that paper was a conclusion reached in Gordon Childe's associated study:<sup>1</sup> the great advances achieved by the European bronze industry in the last centuries of the second millennium B.C., advances which it was difficult not to connect with another phenomenon of the same era, the widespread cultural links between central Europe and the Mycenaean civilization, by then entering its latest phases. The true nature of this connection is still a matter for speculation and controversy: it will, I hope, be enough to say here that the element of transmission from north to south, in technical skills and finished artefacts as well as raw materials, appears today, in the light of much new evidence, to have been somewhat greater than it did to Childe and Hawkes in 1948. But the results of this complex period of cross-fertilization were and are beyond dispute: the cultures of Late Bronze Age Europe, especially in the Carpatho-Danubian region, were in possession of a very advanced bronze-working industry based on native resources. In Professor Hawkes's words, 'The Mycenaean culture's exhaustion . . . left the mines and the skill to exploit them, inevitably, in the hands of the barbarians on the spot'.

I wish to discuss in this paper one aspect of this bronze industry, the production of body-armour in sheet bronze, for which the direct evidence has increased since 1948 in an extraordinary way. Perhaps a brief historical account of these discoveries will not be out of place here. The fact that barbarian Europe possessed the bronze plate-corslet by, at latest, the Hallstatt C period of Reinecke's terminology, was already clear in the 1930's when W. Déonna published a group of corslets from Fillinges in the Haute-Savoie, and discussed the known examples from other sites;<sup>2</sup> but in the absence of dated finds from Urnfield contexts, it was not clear whether their use extended back to a date before that of the earliest examples from Iron Age Greece, with which they had much in common. The Greek examples, long since known, could not be shown to begin before the seventh century B.C. But this picture has since been altered, radically and repeatedly. Already in August 1947, a further discovery of the rear plate of a European bronze corslet, still not clearly



datable, had taken place in the course of the construction of a building which, twenty-one years later, history has made first famous and then infamous: the railway-station at Čierna nad Tisou (Okr. Trebišov), close to the then newly-drawn eastern frontier of Czechoslovakia. This was not, however, fully published until 1966,<sup>3</sup> and it will be discussed presently (pl. 3). The first decisive discovery came with the excavation in 1950 of a grave with a fragmentary corslet and other bronzes in the tumulus at Čaka (Okr. Želiezovce), also in Slovakia but some 200 miles west of Čierna, which was published in full ten years later.<sup>4</sup> This find, which belongs either to Reinecke's Bronze D or to the earlier part of the ensuing Hallstatt A 1, was apparently not known to Gero von Merhart when he wrote his important 'Panzer-Studie' of 1954,<sup>5</sup> in which he maintained (among other things) that the central European bronze plate-corslet was independent of – and indeed older than – its supposed Greek model, a claim for which the Čaka find gave timely validation. But then two discoveries in Greece changed the situation once again. First, a Late Geometric grave at Argos produced the earliest datable find of a Greek panoply – helmet, front and rear plate or corslet, and possible greaves (pl. 4). The group was published in commendable detail by its excavator, P. Courbin, in 1957, while his recent study of the pottery would indicate a dating of about 725 B.C. for the grave.<sup>6</sup> But in 1960 occurred a more momentous find, in a chamber-tomb excavated by a joint Greco-Swedish expedition at Dendra, also in the Argolic plain: a bronze panoply of LH III A1 date – that is, the later fifteenth century B.C. – the first positive proof of the existence of Mycenaean plate body-armour, although this had been inferred long before, by some scholars at least, from representational evidence.<sup>7</sup> The Dendra panoply (pl. 1), once it had been treated and studied, was seen to 'take with it' more than one earlier find of body-armour from the Bronze Age Aegean, the true nature of which had not been understood; it also explained a subsequent discovery, made in a Mycenaean building at Thebes in 1964, which would otherwise have been hard to interpret – some of the curious triangular plates which from the Dendra find are now known to have fitted across the chest of a corslet.<sup>8</sup> Revelation has not even stopped here: further corslets of Iron Age date have come to light at sites in Slovenia, as well as in Greece; a new, if fragmentary, corslet occurred in 1965 in an Urnfield hoard of a date only slightly later than the Čaka find, at Ducové (Okr. Trenčín), some miles northwards from Čaka<sup>9</sup> (pl. 2:a-b). From Greece, there is also some new representational evidence, to be discussed presently. It is tempting to say that, with knowledge advancing at this bewildering pace, firm conclusions should be avoided for the time being, but it is the function of each generation of scholars to offer some interpretation of the evidence presently available to them, more especially when this has increased so swiftly as to make all earlier assessments obsolete.

In my book *Early Greek Armour and Weapons* I published an account of the evidence

available up to 1963, both from Greece and from barbarian Europe, the prime aim of which was to make sense of the developments in the former area.<sup>10</sup> The two most important discoveries, however, those at Čaka and Dendra, had only very recently become known to me when I wrote. My interpretation was, briefly, that the conception of bronze plate-armour, essentially a European and not an Asiatic device, originated in the Minoan/Mycenaean cultural area, probably in the fifteenth century B.C.; that it was passed to barbarian Europe in the period of intense intercommunication in the thirteenth and twelfth centuries, to appear – although in radically different form<sup>11</sup> – at Čaka; but that in the country of its origin, plate-armour fell out of use by the end of the Mycenaean period, as part of the technical and material recession which introduced the era that most scholars are content to call the Dark Age. The sudden reappearance of bronze body-armour in late eighth-century Greece, as attested by the strikingly competent panoply at Argos, was attributed not to the survival of old skills, but to the re-establishment of contacts with Urnfield Europe, an event which must to some extent be linked with the onset of Greek trade and colonization in Italy earlier in that same century. The fact that two plate-corslets of presumed Urnfield date were said to have been found in Italy seemed to be a hint of the historical possibility of such a transmission. It is fair to say that this theory was not too well received. Some reviewers of the work pointed to the dependence of the argument on the admittedly insubstantial central European series, in which the Čaka find stood in perilous isolation; stronger criticism, however, was directed at the hypothesis of a four hundred-year interruption in the manufacture of plate-armour in Greece. In the words of one reviewer, ‘Any day a turn of the spade may wreak havoc with these conclusions’.<sup>12</sup> I should like to make some examination of the new evidence and its impact on this attempted reconstruction, and to assess some of the historical implications of the wearing of such plate-armour. But I also believe that more can be extracted from the previously existing evidence if it be examined in greater detail.

To begin with the Dendra panoply: while the find is agreed to have opened a new chapter in the history of early technology and warfare, the object itself remains a cause for something like stupefaction (pl. 1). Its monstrous size and weight, and its cumbrous fifteen-piece construction, tempt one to regard it as a clumsy and experimental product; yet an appreciably earlier grave at Dendra contained what is now recognized as a shoulder-piece from such a panoply (above, p. 34 and n. 8), which would have been useless without at least the main plates of the cuirass as well. Furthermore the basic formula for the composition of the Dendra panoply – front and rear plates, separate shoulder-guards and supplementary plates suspended from the waist – is so far from experimental that it is still preserved in substantially the same form in post-medieval armour over three thousand years later.<sup>13</sup> The practical limitations of the Dendra type of armour are clear: such ponderous apparatus can

only have been worn by chariot-borne warriors, fighting actually *in* their chariots rather than merely *from* them in the Homeric manner. Indeed this association between panoply and chariot was already implicit in the Linear B tablets of class Sc at Knossos, on which the ideograms of both appear. It is worth stressing the insight of Sir Arthur Evans who, by seeing the Knossos corslet-ideogram for what it was, and observing its association both with chariots and with the 'bronze ingot' ideogram, in effect prophesied the appearance of the Dendra panoply twenty-five years in advance.<sup>14</sup> The mention of the Knossos tablets today cannot but raise the question of chronology, which in fact forms one of the interesting aspects of the Dendra type of armour. All the surviving finds of this class – from the two graves at Dendra, from a roughly contemporary grave at Phaestos in Crete, and more recently from Thebes (p. 34 and n. 8) – can certainly be placed in the fifteenth and fourteenth centuries B.C., and perhaps between 1450 and 1350. It also remains the view of most scholars that the final destruction of the Palace of Knossos, with at least the vast majority of the Linear B tablets found there, is to be placed within these same limits, if perhaps nearer 1350 than 1400.<sup>15</sup> For the two subsequent centuries, when Mycenaean power rose to its height, not only are no further finds of plate body-armour forthcoming, but we have also the positive evidence of a number of representations, which show a sleeved, non-metallic corslet in use, often worn by infantrymen, and of the Linear B tablets of class Sh from the destruction level of the palace at Pylos (c. 1200 B.C.), which also seem to show a sleeved corslet, not this time associated with chariots.<sup>16</sup> It seems that the mass-production of the Dendra type of armour had fallen out of favour as the years passed, although it may still have been worn by isolated notables (it may be mentioned here that a recently-found pictorial sherd of this same late period, as yet unpublished, is said to show a chariot-borne warrior wearing a breast-plate).<sup>17</sup> Whether we are justified in going further, and inferring that the cause of the change lay in the expansion of Mycenaean armies and the employment of massed infantry of the kind shown on the late 'Warrior Vase', is perhaps a matter of opinion, but there is at least a *prima facie* case for associating the heyday of the cumbersome Dendra type of panoply with the use of massed chariots in battle; and possibly its obsolescence began with their decline.

If the panoply of the Mycenaean knights had already been found to have limitations in this period, well before the technological recession of the Dark Age, then how will this affect the question of the transmission of armour to central Europe? The Čaka find remains the key piece of evidence here. A precise dating in absolute terms can hardly be expected for this, but it seems to me preferable to place it in the twelfth century, rather than the later thirteenth to which Marija Gimbutas has attributed it, if only because the violin-bow fibula with figure-of-eight loops, which she uses as one of the chronologically distinctive objects in the grave-group,

definitely belongs, in its isolated occurrence on a Greek site, no earlier than the twelfth century.<sup>18</sup> In any case the Čaka find is contemporary with a period when the fully-fledged Dendra type of panoply, with all its appurtenances, was no longer in its greatest vogue. We are not therefore surprised to find that the Čaka corslet, for all its fragmentary condition, was of quite different form from the Dendra panoply, consisting only of a front and a rear plate, protecting the upper part of the body. Such a cuirass is most likely to be the descendant of the inner element of the Dendra panoply, a front and rear plate of much cruder but functionally identical form.<sup>19</sup> But by retaining this element only and developing the cuirass from it, the European armourers show that they are meeting a different kind of demand; they were, I suggest, adapting the armour to the context of predominantly infantry warfare, since this was the great period in Europe of the cut-and-thrust sword, that essentially infantry weapon. It is possible that some of the steps in this process had been taken by later Mycenaean armourers, and that the 'reduced' form of panoply was now in use in Greek warfare, but we have as yet little or no proof of this.

At this point we may introduce the most important new piece of evidence, the fragmentary corslet from Ducové (pl. 2:a-b). Two pieces only of this are extant to my knowledge, but they are more substantial than the broken fragments at Čaka and, by a lucky chance, the placing of both in relation to the corslet as a whole is reasonably clear. Both pieces are from the breast-plate. Pl. 2:a shows, down the left-hand side of the photograph, a curved double line of ornamental bosses which must represent the bordering of either the neck-hole or one of the arm-holes, while at the top right-hand corner of the fragment can be seen the edge of one of the two breast-ornaments, in the form of a star within a circle, with further triangular rays on the outer side of the circle. These breast-ornaments are known from the Čaka find, where however they were made as separate plates, whereas at Ducové they are executed with a fine punch on the breast-plate itself. In pl. 2:b we see more than half of a breast-ornament preserved (whether the same one or that on the other side); and, at the far right edge, the slight but unmistakable traces of the (wearer's) left arm-hole border. In Nitra Museum in 1966 the two pieces were apparently exhibited joining, with the last broken outer triangle of the star towards the left of pl. 2:b fitting on to the lowest visible apex of a triangle in pl. 2:a, to make up the same triangular ray; the fragment in pl. 2:a therefore needs to be rotated clockwise through rather more than 45 degrees. This join is presumably valid, even though it is exact for only a very brief length. It follows that the fragment in pl. 2:a is from the region of the left clavicle, with the ornamental border belonging to the neck-hole, which describes a less abrupt curve than that of the arm-hole on pl. 2:b. A further interesting feature of this latter fragment is the line of the break along its lower edge. It follows an even curve which can only derive from a plastic feature of the original breast-plate, and

indeed near the left-hand end the break diverges downwards a little, so that one can see this relief-ridge preserved. Clearly the corslet had, on each breast, a star-shaped ornament with a roughly semicircular curving ridge below it, while its arm- and neck-holes at least were bordered with a single or double row of bosses. The Ducové find thus fills out several details of the early European corslet which were not securely attested at Čaka. As to its date, I am most grateful to Dr Anton Točík for the information that the associated finds in the Ducové hoard point to a dating that is 'eher der Zeitperiode Ha A 1'; a phase which many scholars today would roughly equate with the twelfth century B.C. In any case, it is unlikely that Ducové is much later than Čaka.

The isolation of the Čaka corslet is thus decisively ended; but already in their publication of Čaka, Točík and Paulik had referred to possible fragments of similar corslets, from roughly contemporary hoards in the Hungarian plain,<sup>20</sup> and further, there is now at least one representation which can be placed alongside these actual examples. The well-known clay figurine (possibly a cult-idol) from Kličevac wears on its chest two star-shaped ornaments whose model we can probably recognize on the breast-plates of Čaka and Ducové; also, a dog's-tooth border runs along the inside of its arms, and appears on a larger scale over its shoulder-blades, recalling the dog's-tooth pattern which ran round the sides and bottom of the Čaka armour.<sup>21</sup> Stylized as the figure is, it is probably conceived as wearing a plate-corslet. But for some time after the initial phases of the Urnfield culture, there remains a dearth of securely-dated finds. Merhart dated his 'West Alpine group' of corslets, mainly on stylistic grounds, to the later Urnfield period. Their multiple-boss decoration is certainly in keeping with such a date, while their severe shape is more primitive than that of his 'South-east Alpine group', some examples of which can be securely dated in Hallstatt C. The 'West Alpine group' remains a somewhat shadowy one, but the geographical distribution of those of its members whose provenance is known creates another problem: if their production was really centred in the western Alps, then there is a gap in space as well as the apparent gap in time. Can anything be done to bridge it? Or did the wearing of plate-armour really fall out of use in the middle Danube region (as in my view it did in Greece)?

There are already several factors which tell against this last possibility, and there is little doubt that time will bring more. In the first place, it is easier to believe that some of Merhart's 'West Alpine group' go back to an earlier stage of the Urnfield period, now that the Čaka and Ducové finds provide a firm anchor near its beginning. Indeed, H. Müller-Karpe has already suggested the possibility of an early Urnfield dating for one of this group, the breast-plate from Grenoble.<sup>22</sup> Further, the appearance of the Ducové fragments provides links with later corslets – especially with one which shares the general geographical origin and the method of fastening, by fixed

rivets down the left-hand side, of Merhart's 'West Alpine group', the corslet from the Saône at St-Germain-du-Plain.<sup>23</sup> Its breast-plate is decorated, not with the ornate multiple bosses of the 'West Alpine group' proper, but with two star-shaped breast-ornaments executed with a fine punch, just as on the Ducové breast-plate. Although there are many differences between the two pieces, it does appear at least a possibility that a continuous tradition of body-armour may have linked them, a tradition which by-passed some of the excessively heavy decorative effect, and perhaps the rather primitive shape, of the main 'West Alpine group', while sharing its method of fastening front and rear plate together. Next, a brief mention may be made of a fragmentary corslet in a hoard from somewhere in the middle Danubian region, as yet unpublished, which is briefly referred to by B. Novotný in his publication of the Čierna corslet (see above, n. 3), in terms which suggest that it is of early Urnfield date.<sup>24</sup> Finally, we have the back-plate from Čierna nad Tisou itself, the remaining substantial find from this region (pl. 3). For all that it is an isolated discovery with no chronological context, it will, I think, prove to be of significance for the internal evidence that it offers. The back-plate is perhaps more than three-quarters preserved, and this is enough to inform us on all aspects of its typology except the details of the neck-line. Although split in several places and broken off at the edge in others, it still preserves the contour of its vertical section very well – a gently convex curve in the upper part, running into an equally gentle concave one from the base of the shoulder-blades down to the waist. This must have given the corslet, when complete, the characteristic 'bell' shape which is to become familiar in the armour of the full Iron Age. Further, the Čierna piece has the thick, rolled lower rim, and the parallel ridges above the rim, which are also common in that period. Yet in other respects the Čierna corslet belongs to an earlier stage, and there is a particular significance in its differences from the corslets of Merhart's 'South-east Alpine group', to whose general geographical orbit one might otherwise be tempted to allocate it. Most important in this respect is the fixed rivet attachment down the left-hand side, which is fortunately well-preserved. This feature is common to the 'West Alpine group', and also apparently to the early piece from the 'middle Danubian region' mentioned by Novotný (see n. 24), but not to the Hallstatt C 'South-east Alpine group'. Again, the two parallel ridges at Čierna are now known to be not an exclusively late feature, since they are visible on one of the larger fragments (probably from the shoulder) of the Čaka corslet.<sup>25</sup> In general the Čierna corslet is strikingly plain, lacking any plastic indication of the shoulder-blades, let alone the profusion of repoussé work which is present even on the back-plates of Merhart's 'West Alpine group'. Altogether, it is difficult to disagree with Novotný's conclusion that it must date to the later Urnfield period, a rough contemporary of the 'West Alpine group' but from a quite distinct tradition of bronze-working – a

tradition which was later to produce the 'South-east Alpine group' of Iron Age date, which shows a similar restraint in decoration, combined with a more developed plastic shape. The geographical situation of Čierna, on the fringes of the Hungarian plain where such an awkward gap in the series had hitherto existed, takes on a new importance. Together with the appearance of the Ducové find and its unpublished contemporary, and with the evident stylistic links between these and later corslets, this already goes far to show that the gap is illusory. The central European series is surely a real and unbroken one, which may one day be vindicated in full, and the 'West Alpine group', on which attention has perforce been concentrated hitherto, may be no more than a regional manifestation of it.

But what of Greece in the meantime? The difficulties of spanning the gap in barbarian Europe, between the twelfth century Čaka find and the seventh century 'South-east Alpine group', are nothing compared with those of the gulf that yawns in the evidence from the Aegean area. We left Mycenaean armour with its latest manifestations on the Pylos tablets and in representations of the later thirteenth and earlier twelfth centuries, from which we inferred that plate-armour was no longer in widespread use. For a long time thereafter there is little to tell. One or two fragmentary pieces of bronze have appeared from sites in the 'refugee areas' in the western part of the Greek peninsula, to which bodies of Mycenaean migrants seem to have moved in the twelfth century; if they are from armour, as has been persuasively argued, then it can in no case be plate body-armour, but rather reinforced leather or textile corslets of the kind which I believe to be shown in many of the Mycenaean representations. Strips of bronze decorative bordering were found at Kallithea in western Achaia, in the same grave as produced the well-known pair of greaves; they recall the bordering on the corslets of the Warrior Vase, set off in white against the black, presumably leather, body of the garment.<sup>26</sup> To roughly the same period, the earlier twelfth century or slightly later, belongs one of the curious 'dormitory-tomb' burials on the island of Kephallenia, which produced a number of bronze studs and discs that may, as Dr H.W. Catling originally suggested to me, have served as reinforcement for a corslet.<sup>27</sup> Even the now well-known helmet from a grave at Tiryns, which belongs perhaps around 1100, really consists only of metal open-work reinforcement for a cap which must have been basically of leather or other pliable material, apart from the hanging cheek-piece which is of solid bronze.<sup>28</sup>

Thereafter, for the duration of the eleventh, tenth and ninth centuries, we are confronted with a period which shows an apparently total discontinuity in many fields of material culture. We also find at this time – and this is particularly significant in the context of bronze-work of any kind – and apparent suspension of Greece's overseas contacts in many directions. It is of course possible to discount much of this evidence, based as it is largely on arguments from silence, but there are certain

positive indications too, which are not always taken into account. Greece has never been naturally well-endowed for supporting a bronze industry. Copper ores in small deposits do exist in Aegean lands, and may have already been exploited in Mycenaean times, but ancient tin-working has not been established anywhere in Greece, either for the Mycenaean or for the ensuing period.<sup>29</sup> As a result, there must have already been a large-scale traffic in imports in Mycenaean times, either of copper and other ores, or of the extracted metals in dump form, or of finished bronze artefacts – most probably of all three. Whether or not the mines of the Danubian region played as important a part as was suggested by Childe and Hawkes in 1948, other sources of supply must have lain in the Near East, particularly Cyprus and Anatolia. Even in the late period, when activity in the Balkan mines seems to have been at its peak, we have eloquent proof of the continued operation of the Near Eastern route in the cargo of the ship wrecked off Cape Gelidonya.<sup>30</sup> The last voyage of this ship probably took place rather after 1200 B.C., and it is agreed to have been sailing from a Cypriot or Levantine port westwards, presumably to the Aegean which it had so nearly reached. Its cargo contained copper ingots in considerable bulk, together with a wide range of bronze tools and other artefacts, and some scrap. Clearly, the Aegean was still a major market for sea-borne cargoes of copper and bronze from abroad.

But soon the whole picture was to be changed by the advance of iron-working, first in the region of the Levantine coast and its hinterland, then on Cyprus, and finally in several regions (but by no means the whole) of the Aegean area.<sup>31</sup> For Greece as for other regions part of the significance of the onset of the Iron Age lay in the greater self-sufficiency that it bestowed: iron ores are widely distributed over the earth's surface, and are quite well-represented in Greece. To be able to dispense with the importing of metals in bulk would have been a boon at any period, but at this particular moment, when the security of all overseas contacts seems to have been threatened, it was providential for Greece. The sequel is clear and, given these considerations, predictable. After a phase in the earlier eleventh century when the few iron artefacts in Greece are as likely to have been imported as locally-made, the more accessible and progressive regions of the Aegean – Attica, the Argolid, Thessaly, Crete, certain of the Cyclades, and south-western Asia Minor – plunge wholeheartedly into the Iron Age. To begin with, iron comes into almost exclusive use for weapons and tools in these regions, as we might expect; but things are carried altogether farther than this. There follows a phase – the middle part of the Protogeometric period of pottery in each of these regions except Crete, which can be placed between the approximate limits of 1025 and 950 B.C. – when two things happen. First, there seems to be a total suspension of contacts overseas in all these regions except, again, for Crete. Graves of this era no longer produce objects in materials foreign to Greece (of which gold, ivory and amber are perhaps the most obvious),



while Cypriot influence on Protogeometric pot-shapes, which is apparent both in the earliest and latest stages of the Protogeometric style, seems to desist for a period in between. Secondly, the use of iron becomes curiously intensive. It is used for the shafts of dress-pins, as it had never previously been and was seldom to be again, and it becomes the commonest material for fibulae too, which is also a peculiarity of this phase. Since the few weapons and tools are exclusively of iron also, this means that bronze objects of any kind are excessively rare in the graves of this time. (Evidence from contemporary settlement-sites, Crete apart, is largely wanting.) I find it difficult not to connect these two phenomena, and to conclude that this was a time when bronze was practically unobtainable in Greece, except in the form of heirlooms and recast objects from the Bronze Age. But these conditions presently passed. Before the end of the life of the Protogeometric style, bronze pins and fibulae begin to reappear, along with objects of gold and ivory, and later amber too.<sup>32</sup>

Cypriot influence shows itself again, in pottery-shapes and in other fields. A notable recent discovery is a bronze-foundry, dating from the later years of the tenth century, at Lefkandi in Euboea, which produced fragments of clay moulds used in the casting of tripod-legs.<sup>33</sup> In the description of these finds in a preliminary publication of the site, H. W. Catling has argued that they go far to confirm the total continuity of bronze-working (including the production of plate-armour) throughout the Dark Age of Greece. But he also observes that the form of decoration used on the tripod-legs is similar to that on certain imported Cypriot rod-tripods, some of which had been brought to the Aegean in this period or earlier. It is, I suggest, likelier that it was the resumption of the eastern trade in metals which inspired the growth of this local bronze industry. In this particular context we should also remember the salient fact that plate body-armour of any kind was apparently unknown in the Near East at any time in earlier antiquity, so that the production of bronze tripods need not, and perhaps cannot, have anything to do with that of bronze armour in terms of the source of inspiration. Later centuries were to show a further resurgence in the use of bronze in Greece; it even became popular for certain offensive weapons, such as arrowheads, spearheads and spear-butts. Since the motives, technical or in some cases aesthetic, for this return to bronze were not effective earlier, we must assume that bronze supplies were for long less than copious.

Bronze plate body-armour is again seen in Greece only with the appearance of the panoply in the Late Geometric grave at Argos of about 725 B.C. (pl. 4; see above p. 34 and n. 6). Of the preserved components of this panoply, it is the corslet that concerns us here. For the associated helmet, a less accomplished product of the armourer's skill, I will only say that the closest analogies seem to be those found in contemporary and slightly earlier representations in the Near East.<sup>34</sup> But for the corslet there are really only two courses open to us: either we must regard it as the

descendant, by an unbroken tradition of bronze-working, of the plate-armour first produced in Mycenaean Greece more than 700 years earlier and, according to our findings, already falling out of its initial period of vogue about a century after that, or we must see it as the result of resumed contacts with a region where plate-armour was in common use – and such a region can only be Urnfield Europe. The fact that the Argos corslet is technically a most impressive and accomplished piece of work would be compatible with either explanation. In archaeological and historical terms, the second alternative has long seemed to me by far the more probable one. The evidence that we have just been considering, of the acute shortage of bronze in Greece during part of the Dark Age, appears to tell powerfully against the theory of continuity. The internal evidence of the Argos find goes further towards endorsing the other view, and there is now fresh material which seems to give added corroboration (see Postscript, below, p. 47). The historical background of this period, which witnessed the onset of Greek colonization in the west, beginning in the southern Adriatic, central and southern Italy, and Sicily, is in general favourable to such an interpretation of an innovation in Greek culture. Considerable fresh light has recently been thrown on the process of Greek expansion in the west. At the later famous Etruscan city of Veii, it is now clear that the sporadic import of Greek pottery goes back to a time before the establishment of any permanent colony in the west, probably almost to 800 B.C.<sup>35</sup> At the earliest Greek colonial site in this region, Pithekoussai on Ischia, Dr G. Buchner's excavations have not only shown that permanent settlement, as represented by the grave-series, must begin by the second quarter of the eighth century; they have also provided a strong hint of the original motivation of Greek activity in these waters. From the accompanying settlement on the Acropolis come traces, beginning also in the eighth century, of the working of iron-foundries, and analysis of the slag from here, by Professor G. Marinella of the Institute of Mineralogy at Pisa, has now proved that the source of the ore was Elba.<sup>36</sup> Admittedly it is iron rather than bronze which is involved here, but the connection between the search for metals and the Greek expansion in the west is now put on a sounder footing than before. By the later eighth century the circumstances seem propitious enough for the transmission of central European metallurgical skills to Greece. The final link in the chain, between the metal industries of the northern Italian civilizations and those of the heart-land of the Urnfield culture, has been sufficiently well established by others to need no discussion here. Its most relevant manifestation for us is in the spread of the 'West Alpine group' of corslets to Etruria and Campania, which is attested by the provenances 'from an Etruscan cremation-grave' (more probably Villanovan, in view of the rite) and 'near Naples', of the pieces in Hamburg and the Louvre respectively.<sup>37</sup>

One further possible alternative explanation of the return of plate-armour to

Greece perhaps merits brief discussion here, if only because it has been long and strenuously upheld by certain continental scholars: this is, that the wearing of bronze armour was re-introduced to Greece by barbarian immigrants travelling overland at the period of the great migrations in the twelfth and eleventh centuries B.C. Leaving aside all the manifold difficulties of deriving the Dorian and other invaders from barbarian Europe, I would merely stress that this explanation is open to the same objections that have been rehearsed against the argument of full continuity in the Aegean. For it is after the time of the great *Völkerwanderungen*, and after the introduction of iron, that the era of the most intense impoverishment, isolation, and bronze-shortage in Greece sets in. At this period, one could hardly wish for a more profound contrast in material culture than that between Urnfield Europe, with its rich and varied bronze industry, general aura of wealth, profusion of ornamentation, and very occasional use of iron, and Dark Age Greece, with its unbroken air of austerity, intense iron-usage, and stern concentration on the functional at the expense of the decorative. The ghost of the stylistic contrast is indeed still present when, in due course, plate-armour once again becomes available from both regions.

We come at length to the Argos corslet itself, and indirectly to other undated Greek finds from sanctuaries which belong to the same type of armour, and may not be very much later. The Argos piece and its nearest successors show a complete rejection of all but the most restrained decoration, which might seem a significant barrier to deriving them from the central European products; certainly it argues for the actual workmanship of the Argos corslet being Greek. But the recent finds from barbarian Europe now provide some likely models for other features of the Argos find. The semi-circular breast-outlines on the Argos breast-plate are now foreshadowed by the rather sharper relief lines on the Ducové fragments (p. 38); in both cases there was an interruption of the line, of several centimetres' breadth, in the middle of the chest. A much closer parallel is provided by the general restraint in decoration, and by the treatment of the lower rim and to a lesser extent of the arm-hole borders, on the Čierna back-plate. The proper analogy is with the back-plate of the Argos corslet,<sup>38</sup> but our view of the breast-plate (pl. 4) shows clearly enough how precisely similar is the execution of the rim, with the rolled edge and the two parallel relief ridges above it. There are other features of the Argos corslet – among them the relief line in an 'omega' curve over the solar plexus region of the breast-plate, the second pair of parallel ridges at the level of the waist, and the high outward-curving collar – which are hard to match on the early corslets from the Danubian region, partly because we do not possess the relevant parts of them, but which are reflected in the surviving corslets of Merhart's 'West Alpine group'. Different as these are in their general appearance and decoration, the distribution of their ornamental bosses shows a concentration on the same parts. There is a plain, roughly triangular area

outlined in bosses over the solar plexus, and there are twin lines of bosses running round the waist; the high collar is regular. A breast-plate of uncertain date from Olympia shows a further parallel with this group. It has hinges over the shoulders, such as are found on the corslet from Etruria in Hamburg.<sup>39</sup> In fastening-devices, the Argos corslet shows neither the fixed rivets down the left-hand side of the 'West Alpine group' and perhaps of earlier European corslets (p. 39 above), nor the more complicated system of wires and tubes used on the 'South-east Alpine group'; instead it is pivoted down the *right*-hand side, with brackets on the breast-plate engaging in slots on the back-plate, and has a looser adjustable fitting on the left flank.

One last hint of the external inspiration of the Argos armour is given by an associated find in the grave: a pair of iron firedogs in the form of warships. On published evidence these remain, by a narrow margin, the earliest metallic firedogs known from Europe. They are succeeded, quite early in the seventh century, by two main groups of comparable finds, one in Cypriot and the other in Etruscan graves.<sup>40</sup> Since the Argos examples have no clear successors in Greece itself, it is tempting to regard them as intrusive, and their temporal priority as coincidental. There is also a natural tendency to look for the origin of firedogs in Europe rather than in Cyprus or adjacent territories, since the open hearth was a long-established institution there, and indeed earlier firedogs in humbler material may have existed.<sup>41</sup> It is at least therefore possible that the inferred route *via* northern Italy, which I believe to have brought the notion of plate-armour back to Greece, may one day find confirmation in the source of these associated objects.

We have still to consider the context of this new departure in Greek warfare. The ultimate significance of the wearing of plate-armour in Greece is shown by the growth of the citizen-army of hoplites, heavy infantry drawn from the class of citizens who could afford to equip themselves with plate-armour and a round shield. Already by the mid-seventh century we have proof of this development, in the vase-paintings which show a massed force or phalanx of such hoplites. But I have suggested elsewhere<sup>42</sup> that the first employment of bronze armour in Iron Age Greece was unconnected with this, and was the result of the enterprise of individual aristocrats or warriors of means – of whom I believe the young man buried in the Argos grave was one. The excavator indeed argued, from the nautical form of the firedogs and the unusual offensive weapons in the burial, that this warrior was a marine or ship's captain. The argument was something less than conclusive, and is now weakened by the occurrence of similar 'warship' firedogs in Cyprus. A new piece of evidence has now come forward to suggest a different conclusion; it is a Late Geometric pictorial vase, of a date quite closely contemporary with the Argos grave, but of Attic rather than Argive fabric (pl. 5).<sup>43</sup> Its main decorative zone is given to a military scene, the

inspiration and subject of which may well be taken from heroic saga, but which nevertheless incorporates, as often, elements taken from contemporary life. Besides the regular series of chariots, whose significance in terms of real-life warfare at this period is debated, the painter has included one of the rare figures of mounted warriors (at the left-hand side on pl. 5), which begin to appear in this, the latest phase of the Late Geometric style.<sup>44</sup> But this particular cavalryman is so far unique, for despite the limitations of the silhouette technique, the painter has clearly indicated the outline of a bell-shaped corslet with jutting rim. The man also brandishes a spear and wears what may be intended to be a helmet; he rides one of two horses side by side, the other no doubt being imagined as ridden or led by a squire. In other words, he is an aristocratic Athenian cavalryman, of the kind whose survival is well-attested in later years, in the form of the 'mounted hoplite', who dismounted for the actual battle, but who at this stage is quite evidently preparing to fight from horseback. He must embody that stage of true cavalry supremacy which, according to Aristotle (*Politics* 1289 b 36f.), came before the era of the hoplite; and the fact that he is, by a margin of perhaps a generation, the earliest figure in Iron Age Greek art represented as wearing a plate-corslet, gives a strong hint as to the conditions for which plate-armour was first re-introduced in Greece. His Argive contemporary had no doubt acquired his armour for use on horseback too. It is worth noting that scenes of warriors leading horses are especially common in Argive Geometric art.<sup>45</sup>

This phase of cavalry supremacy in Greece was not, it seems, a very long one: certainly it was brought to an end by about 650 through the rise of the hoplite phalanx, while in the other direction it is hard to trace very far back into the Dark Age with any certainty. It seems, indeed, to be a new development in Greek history. In the Mycenaean period, evidence for equitation of any kind is difficult to find, and that for cavalry is slight indeed; thereafter, only a Cretan pictorial vase of perhaps the eleventh century shows a solitary mounted warrior.<sup>46</sup> Why true cavalry should have come into vogue during the eighth century, as it apparently did, would be hard to explain on internal grounds, apart from the obvious fact that the long-standing aristocratic form of society in Greece was now entering a phase of increased prosperity. But we may note, once again, that the situation seems to find roughly contemporary echoes beyond Greece, in the barbarian communities of Europe. For Italy, there is widespread evidence for horsemanship and cavalry throughout Villanovan and earlier Etruscan times.<sup>47</sup> Further, in his latest study of flange-hilted swords and their derivatives, J. D. Cowen has shown that the characteristic trans-Alpine weapons of the end of the Urnfield period and the beginning of Hallstatt C show an entirely new tendency in form – the thickening of the blade and neck, and the adoption of a blunt triangular point. This, he argues, can only be explained as a modification of the old cut-and-thrust sword for use by cavalry, perhaps in reaction

to the threat of the mounted 'pre-Scythian' invaders now entering Europe from the east.<sup>48</sup> It is not impossible that the coincidence of a concentration on cavalry and a fresh adoption of plate-armour in Greece had something to do with the recent confrontation with barbarian cultures that were also – although against a very different background – now combining these same two practices.

It only remains to express my great indebtedness for the advice and help I have received in discussions and correspondence with several prehistorians: Mr J. D. Cowen, Professor Stuart Piggott, Miss Nancy Sandars, Dr Anton Točík and, not least, the scholar to whom this study is gratefully offered.

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### Postscript

It was only after this paper had been written that a notice appeared of a new find of crucial importance in Greece. In a re-used Mycenaean grave on the slopes of the Athenian Acropolis, together with pottery which is allegedly of Early Geometric date (that is, of the earlier ninth century B.C.), were discovered a pair of bronze greaves, decorated with repoussé ornament and bordering of the same kind as is found on the well-known series of greaves from Urnfield contexts in central Europe.<sup>49</sup> The form of the wheel-ornaments on the Athens greaves is roughly matched by those on the earlier pair from Rinyaszentkirály in Hungary, but in the distribution of the ornament and in their general configuration they are closest to the later pair from Ilicak Tumulus 2 in Bosnia. At first sight this would seem to give powerful confirmation for the main thesis advanced in this paper: if the earliest find of Iron Age armour in Greece, substantially older than the Argos grave, shows clear central European inspiration, then this tells in favour of a barbarian source for the revival of Greek body-armour, and against the possibility of a continuous tradition of production in Greece. But there is rather more to it than this; the Athens find, from one point of view, proves too much. First of all, the greaves are surely of actual central European manufacture, as the Argos corslet is not; then there is the curious fact that the associated implements – straight, one-edged knives and razors – are of bronze, whereas in Athens iron had long been the absolutely invariable material for such cutting-instruments; some of the other accompanying finds, too, sound oddly untypical from the description. All this suggests some such explanation as an individual mercenary – either a barbarian in Greece, or a Greek returned from service in the north. At the same time, the relatively early date given for the find (most unfortunately, the pottery is not illustrated) isolates it from the bulk of such phenomena in Greece, and indeed places it in a period when I had previously held that

Greco-barbarian links were still virtually non-existent. In this context, however, the main function of this new discovery is to reassert the likelihood that the plate-armour of the historical Greeks was not a legacy from their remote heroic past, but a testimony to their own widening horizons.

## Note

A new publication of the Ducové and Čierna finds has now appeared, by J. Paulik in *BRGK* 49 (1968), 41–61 (publ. March 1970). Dr Paulik's main general conclusions and mine, reached entirely independently of each other, show a large measure of agreement; the most important difference is in the actual placing of the Ducové fragments in relation to the corslet as a whole. What I took to be part of the left arm-hole-border in the second fragment is explained by Paulik as part of a central ornamental circle; the preserved breast-ornament therefore becomes the wearer's *right*-hand one instead of the left. Paulik's reconstruction, as being carried out on the spot, must clearly be given precedence over mine; but fortunately this difference scarcely affects the overall appearance of the restored corslet and the conclusions based thereon.

## Notes

- 1 *PPS* 14 (1948), 196–218, esp. 201; cf. Childe, *ibid.* 189.
- 2 *Préhistoire* 3 (1934), 93–143.
- 3 B. Novotný, *Sborník Filozofickéj Fakulty Univerzity Komenského* (Bratislava) 17 (6) (1966), 27–34; I am most grateful to Mr J. D. Cowen for a copy of this paper.
- 4 A. Točík and J. Paulik, *Slov. Arch.* 8 (1960), 59–124; cf. for a preliminary report *Archeologické Rozhledy* 4 (1952), 388–95.
- 5 In *Origines: Raccolta di Scritti in onore di Mons. Giovanni Baserga* (Società Archeologica Comense, 1954), 33–61.
- 6 *BCH.* 81 (1957), 322–86; cf. his *La Céramique géométrique de l'Argolide* (1966), 174, 177 (tomb 45).
- 7 Final publication is promised by P. Åström in *Studies in Mediterranean Archaeology* 4 (Lund); meanwhile for the excavation report, see N. M. Verdelis in *Archaiologiké Ephémēris* 1957, paratēma, pp. 15–18, and for photographs of the restored panoply, *AJA* 67 (1963), pl. 62. But see now *Athenische Mitteilungen* 82 (1967), 1–67.
- 8 This material is discussed in *Kadmos* 4 (1965), 96–110 and my *Arms and Armour of the Greeks* (1967), 24–7. For Thebes, see *Illustrated London News* for 5/12/64, pp. 896–7 and, less fully, E. Touloupa in *Kadmos* 3 (1964), 25–7.
- 9 For Slovenian finds, see J. Kastelic and S. Gabrovec in *Situla* 1 (1960), 3–26, pl. I, 1–2 and 27–80. pls. 6–7 (Stična and Novo Mesto); for Greek, see the examples listed in my *Early Greek Armour and Weapons* (1964), 73–4, and add, e.g., three new breast-

- plates and two back-plates from Olympia, *AD* 17, 2 (1961-2), 117-8, pls. 120 b, 134 a. My first knowledge of the Ducové, as indeed of the Čierna, find derived from drawings made by Professor S. Piggott and Mr J. D. Cowen after the Prague Congress of September 1966. I am deeply indebted to them, and to Dr Anton Točík for his great kindness in letting me have photographs of both finds, and in furnishing information about their find-circumstances.
- 10 (Edinburgh, 1964), especially 71-86 and 201-2.
  - 11 I was and am convinced that the Čaka find is of local manufacture and not an import, *pace* T. G. E. Powell, *PPS* 29 (1963), 219.
  - 12 On European series, N. K. Sandars in *Antiq. Journ.* 45 (1965), 279; quotation from L. Casson in *American Historical Review* 70 (1964-5), 1154, but see more fully H. W. Catling in *Antiq.* 39 (1965), 151-2, and on the recent finds at Lefkandi, here, p. 42 and n. 33.
  - 13 See *Arms and Armour of the Greeks*, 24.
  - 14 A. J. Evans, *The Palace of Minos* 4 (1935), 803-6.
  - 15 For recent phases of this controversy, see E. T. Vermeule, *AJA* 67 (1963), 195-9; M. R. Popham, *AJA* 68 (1964), 349-54 and *Kadmos* 5 (1966), 17-24; M. S. F. Hood, *Kadmos* 4 (1965), 16-44 and 5 (1966), 121-41.
  - 16 *Kadmos* 4 (1965), 103-5.
  - 17 From Tiryns: *Archaeology* 16 (1963), 130.
  - 18 M. Gimbutas, *Bronze Age Cultures in Central and Eastern Europe* (1965), 312 (cf. 120-2, pls 21-2); the Greek fibula-find was in tomb ζ at Diakata in Kephallenia, see V. R. Desborough, *The Last Mycenaean and their Successors* (1964), 104; and, for the dating of LH III C after 1200, *ibid.* 240.
  - 19 See *AJA* 67 (1963), pl. 62, 7.
  - 20 Točík and Paulik, *op. cit.* (above, n. 4), 91-2.
  - 21 Gimbutas, *op. cit.* (above, n. 18), 335, fig. 235; cf. 312, fig. 214, 3. Professor Piggott also pointed out this resemblance to me independently.
  - 22 Müller-Karpe, *Germania* 40 (1962), 279.
  - 23 For best illustrations, see Déonna, *op. cit.* (above, n. 2), figs 26-8.
  - 24 Novotný, *op. cit.* (above, n. 3), 31, 33. The hoard-find from Hubina, Okr. Trenčín (*ibid.* 33) should also be added, unless it is in fact identical with the Ducové find.
  - 25 Točík and Paulik, *op. cit.* (above, n. 4), 76, fig. 15, 1.
  - 26 Kallithea, *Athenische Mitteilungen* 75 (1960), 43, 47, Beilage 29; Warrior Vase, H. L. Lorimer, *Homer and the Monuments* (1950), pl. 2, 2.
  - 27 Lakkithra, Kephallenia, *Archaiologikê Ephêmeris* 1932, 39, pl. 16, top.
  - 28 *Athenische Mitteilungen* 78 (1963), 17-24, fig. 9, Beilage 6-7.
  - 29 See most recently S. Benton, *Antiq.* 38 (1964), 138.
  - 30 See now G. F. Bass, *Transactions of the American Philosophical Society* 57, 8 (1967).
  - 31 That the decisive influence in iron-working was exercised on Greece by the Near Eastern civilizations is argued in detail in *AJA* 66 (1962), 408-10 and *PPS* 31 (1965), 229-34.
  - 32 These matters are to be discussed in a forthcoming volume entitled *The Dark Age of Greece*.
  - 33 See H. W. Catling in M. R. Popham and L. H. Sackett (eds.), *Excavations at Lefkandi in Euboea* (1967), 28-9.



- 34 *Early Greek Armour* 13-16, fig. 1, f-j; the case for a connection with Mycenaean helmets of roughly similar shape is put by H. Müller-Karpe, *op. cit.* (above, n. 22), 272.
- 35 See D. W. R. Ridgway in *Studi Etruschi* 35 (1968), 311-21.
- 36 See most recently G. Buchner in *Expedition* 8, 4 (Summer 1966), 12; I am most grateful to Dr Buchner for permission to refer to the result of the slag-analysis, and to Mr Ridgway for my knowledge of it.
- 37 Müller-Karpe, *op. cit.* (above, n. 22), 278, n. 77.
- 38 *BCH* 81 (1957), pl. III.
- 39 The Olympia corslet is no. 9 in *Early Greek Armour*, 74; Hamburg corslet, *Arch. Anz.* 1917, 86, fig. 10: for decoration of 'West Alpine group', *cf.* especially the Fillinges examples, Déonna, *op. cit.* (above, n.2), fig. 7, and that in New York, *ibid.* figs 19-20.
- 40 See S. Piggott, *Ancient Europe* (1965), 192 and n. 60, and his paper in this volume, pp. 245-70.
- 41 See, e.g., H.-E. Mandera in *Germania* 40 (1962), 287-92.
- 42 In *JHS* 85 (1965), 110-2.
- 43 Attic Late Geometric neck-amphora in Buffalo, inv. C 12847; pl. 5 is reproduced here by courtesy of the Buffalo Museum of Science. The detail of the cavalryman has been published by A. Alföldi in *Gestalt und Geschichte: Festschrift für Karl Scheffold* (1967), 24, n. 94, pl. 7,1.
- 44 See the references in *JHS* 85 (1965), 112, n.8, to which could be added further examples, both Attic and Argive (*cf.* n. 45). Two important new studies of early cavalry are those of A. Alföldi (above, n.43) and of M. W. Frederiksen in *Dialoghi di Archeologia* 2 (1968), 3-31.
- 45 See P. Courbin, *op. cit.*, 1966 (above, n. 6), 403-13.
- 46 H. L. Lorimer, *op. cit.* (above, n. 26), 154, fig. 10 for the Cretan vase and Desborough, *op. cit.* (above, n. 18), 27, 177, 188 for its date. For Mycenaean cavalry, M. S. F. Hood, *BSA* 48 (1953), 84-93.
- 47 M. W. Frederiksen, *op. cit.* (above, n. 44), 15 and n. 49, with references.
- 48 Cowen, *PPS* 33 (1967), 416-20.
- 49 *AD* 21, 2 (1966, publ. 1968), 36, figs 1-2, pl. 59 (*cf.* pl. 60a for knives etc.); *cf.* 20, 2 (1965), 30-2. European greaves, G. von Merhart, *Bericht der Römisch-Germanischen Kommission* 37-8 (1956-7), 91-147, especially figs 2,2 (Rinyaszentkirály) and 5, 1-2 (Ilicak, Tumulus 2).

three

Kaineus (Caeneus): a further link  
between the Mycenaean and the  
Greek worlds

*Sp. Marinatos*



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Scholars are recognizing more and more that many aspects of Greek life in general are intimately connected with the Minoan-Mycenaean world. In Greek mythology this is especially evident. We shall treat here a characteristic detail: the hero fighting with two swords.

The Mycenaeans were a society of truly professional warriors. All essential weapons, both offensive and defensive, were standardized and perfected by them: the decorated, crested helmet, the huge figure-of-eight or the tower-shaped shield, the long spear, and the various elaborate types of luxury sword. Certainly the long and strong spear seems to have been the most redoubtable offensive weapon, especially if we bear in mind the short spears of Oriental armies, if they had spears at all. In later times the *sarissai* of the Macedonian army made the Macedonians equally redoubtable.

For the Mycenaean warrior the sword, the second offensive weapon, was perhaps even more essential than the spear. The Mycenaeans continued the elongation of their swords until the blades reached 1.06 m. Together with the handle and the pommel such swords attained a length of about 1.20 m. They were, however, of the rapier type, used only for thrusting. Once an audacious and agile warrior succeeded in avoiding the spearhead of his heavily armoured adversary and got inside its length, his victim was exposed to his sword blows and already lost. The most vulnerable point was the throat. We see this in a series of works of art (pl. 6). The wound through the throat became a traditional one. Surely it is not by chance that the death of Hector in the *Iliad* was due to this very blow, as well as that of many great heroes in the Indian *Mahabharata*, though the offensive weapon in the Greek epics is the spear and in the Indian the bow. It is well-known that there have been many famous champions of the sword which was used to attack a heavily protected adversary. Through practice in handling this very weapon, some of them became skilled in fighting with two swords, one in each hand. This was surely a rare accomplishment; warriors who excelled in it became famous among their contemporaries as well as in later generations. These general reflections can be illustrated by examples.

Concerning Kaineus little has been preserved in the saga. We know that he was

a Lapith who fought against the Centaurs. In the *Iliad* he is merely mentioned by Nestor without any specific identification.

(Ere now have I consorted with warriors that were better than ye, and never did they set me at naught.) Such warriors have I never seen since, nor shall see, as Peirithous was and Dryas, shepherd of the host, and Caeneus and Exadius and godlike Polyphemos.<sup>1</sup>

I, 262 f.

Nestor adds that he had known them personally and praises their incomparable abilities. Later sources add a few details about Kaineus' character; it was precisely because he was considered invulnerable that the Centaurs, striking him with fir-trees, buried him in the earth.<sup>2</sup>

We learn more from a bronze plate of the middle of the seventh century B.C. found in Olympia (pl. 7).<sup>3</sup> This masterpiece of earliest Archaic art (about 650 or 640 B.C.) shows the otherwise invulnerable Lapith beginning already to sink into the earth erect, like a nail, under the heavy blows of two Centaurs, who hammer him with uprooted fir-trees. In the rest of the representations of this tale Kaineus is fighting with the usual armour, shield, and spear; but here, in the oldest of all representations, he is fighting with two swords, one in each hand, which he sinks into the bodies of the Centaurs, so that the points of the swords as well as the jets of blood appear in the pertinent part of the wounds. The scene appears absurd and unlikely, because no other offensive weapons, and not even the sword sheaths, are visible. Where did Kaineus find two swords with which to protect himself in the very moment of *φύλοπις αἰνής*? It is therefore interesting to observe that this oldest representation of the Kaineus tale<sup>4</sup> achieves its full meaning only in the light of a long tradition rooted in the Mycenaean period.

In 1959 a series of tholos tombs were discovered at Koukounara, to the east of the Englianos palace in Pylos. The most interesting among them, certainly the tomb of the local ruler, was found plundered but full of precious relics of the later (Greek) cult of the dead. Among the Mycenaean objects which escaped the plunderers was a seal (pl. 8), a flattened cylinder of amethyst dated by its style to the second half of the fourteenth century B.C.<sup>5</sup> On it is engraved a unique and highly interesting scene: two warriors are opposed in a bitter duel, with two swords each, one in each hand. The two shorter swords, crossed in front of their bellies, are employed, it seems, for parrying. With one of the two other swords each warrior is menacing the throat of his opponent. As far as I know, such a duel with four swords is unique;<sup>6</sup> but there is literary testimony according to which Theseus was painted with two swords in his hands in the famous painting by Polygnotos in Delphi. Pausanias' explanation

that the second sword was that of Peirithous proves an embarrassment to the Perieget and Robert's reconstruction of the painting which shows Theseus holding two swords within their sheaths. It seems more probable that Theseus was painted holding two naked swords. In order to understand the deeper significance of this fact we must refer to the customs of other professional warriors. Indeed we see in more than one instance that such an appearance indicates an extremely intrepid and well-trained warrior. There is a picture of Ogotai Khan, the successor of Genghis Khan (1229-41), representing him with two naked swords in his hands (pl. 9);<sup>7</sup> and some time later, another descendant of Genghis Khan and of Tamerlane, Babur, when he entered India was met by Daulet-Khan, 'who had girded two swords and come out to meet the intruder'.<sup>8</sup> Something similar happened during the period of the medieval knights. Even much later a short sword or dagger was held, in addition to the rapier, in the left hand and was used especially for parrying.

Such analogies, which are neither few nor without great interest, exist between the emigrating people of Asia and the earlier Mycenaean, who after all came from somewhere in those regions. There are common customs, common beliefs, and common motives for tales. Even the uprooting of a tree for warlike purposes, which we have mentioned above, is the custom of many a hero in the Indian epics.<sup>9</sup> The motif of the warrior with two swords, which we now see was Mycenaean, originated surely among other warlike people and was still alive in the Early Archaic period of Greece.

University of Athens

## Notes

- 1 English from Murray's translation of: *Οὐ γὰρ πω τοίους εἶδον ἀνέρας οὐδὲ ἴδωμαι, οἷον Πειρίδούν τε Δρύαντά τε ποιμένα λαῶν Καινέα τ' Ἐξάδιόν τε καὶ ἀντίθεον Πολύφημον.*
- 2 See especially the Epitome of Apollodorus in J. Frazer, *Apollodorus* II, 150, with complete bibliography.
- 3 See R. Hampe, *Olympia Bericht* I (Jb.d.Inst 52 (1937) Heft 3/4) 85 f, and pl.28. M. Wegner, *Meisterwerke der Griechen* 71, fig. 57. About other representations of the Kaineus tale in Greek art see the article 'Kaineus' by Seeliger in Roscher's *Lexikon der gr. und rom. Mythologie*.
- 4 One wonders whether the representation of two fighting men on a Geometric sherd is a misunderstood scene of a duel with four swords. Professor A. Kampitoglou, who published the sherd (*AJA* 64, (1960), pl. 109, fig. 1 and 366-7) is probably right in explaining the warriors as each grasping the other's crest with the one hand while the sword in the other pierces the thigh.
- 5 *To Ergon* 1959, p. 121-22 and fig. 128,4. *Praktika of the Arch. Society* (1959), pl. 148 and especially *ibid.* (1963,) 118 and pl. 92 a.

- 6 In *CMS (Corpus der min.-myk. Siegel)* I (1964) no. 290, an amethyst from Pylos is described as showing a man with two swords fighting against a lion; but the 'second sword' is in fact the sheath of the warrior's only sword. It must be noted, incidentally, that the 'three short stabs . . .' in front of the belly of the lion are the nipples of a lioness. Lions without genitals and lionesses with mane (as here) are usual in Minoan-Mycenaean art.
- 7 From H. G. Wells, *Die Weltgeschichte in Bildern* (Zsolnay, Berlin-Wien-Leipzig, 1930), fig. 390, after a Chinese painting.
- 8 H. G. Rawlinson, *India* (1948), 284.
- 9 K. Rajagopolachari, *Mahabharata* (an abridged edition in English), 56.

four

Some remarks on ‘Peschiera’  
bronzes in Hungary

*A. Mozsolics*





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On the occasion of the eighth session of the International Congress of Archaeology and Prehistoric Anthropology in 1876 at Budapest,<sup>1</sup> when its members inspected the first excavations at Tószeg-Laposhalom, L. Pigorini expressed the opinion that there were similarities between the north Italian Terremare and the Tószeg tell. For a long time Laposhalom was counted as a Terramara in the literature.

In the subsequent century, specialist writings have hinted as ‘related currents’, ‘common foundations’ and ‘influences’ when treating of these Hungarian and Italian finds, and there has been a special effort to approach an archaeological solution to the problem of the Veneti. A satisfactory historical interpretation of the finds, however, has yet to be attained. Mention should be made of outstanding contributions by C. F. C. Hawkes<sup>2</sup> and G. von Merhart,<sup>3</sup> but their stimulating work has not been followed up by other general studies. Research has progressed rather on single topics, and here of foremost importance for north Italian-Hungarian connections is J. D. Cowen’s<sup>4</sup> work on the earliest flange-hilted swords.

It seems now proved that forerunners of these swords – which have been variously termed Sauerbrunn, Keszthely and Boiu – were the weapons *par excellence* of the Tumulus people at the time of their migration south and south-eastward, and also south-westward to the north of Italy. The distribution map clearly shows the routes. Grave associations, as at Keszthely, demonstrate their context within the Tumulus culture. The swords from the Iron Gate and from Povegliano Veronese seem to indicate the south-eastern and south-western extent of the finds. The whole Carpathian basin at this time was undergoing a great change, marked by the end of the great settlement sites, burnt layers and the Kosziderpadlás<sup>5</sup> hoard horizon, and subsequently the region was settled by Tumulus elements. Mixed cultures soon developed. The incursion of Tumulus elements into north Italy seems to have had similar consequences. Peroni thinks there was an invasion, and considers that connections with Hungary were far stronger than with trans-Alpine cultures.<sup>6</sup> In other words, the Polada culture gave way to Povegliano, as is shown not only in the displacement of settlement sites but also in profound structural changes.

In north-eastern Italy Peschiera follows on the Povegliano culture. In many regions of Hungary, where we have good grave finds with bronzes, or hoards, there

are also a comparatively large number of 'Peschiera' types. They are not confined to a single horizon. Some types cannot yet be exactly dated in Hungary, since almost all examples are isolated finds. Others, however, come from closed finds. Certain types can be ascribed to defined cultural horizons, since hoards are frequently found inside pots, and pottery and bronzes were deposited together in graves.

Peschiera 'developments' began fairly early in Hungary, perhaps already after the establishment of the earliest Tumulus culture, or in the middle phase of the Piliny culture. At present there is no evidence for classic Peschiera forms as early as the hoard horizon of Felsőbalog,<sup>7</sup> Forró (with octagonal-hilted sword)<sup>8</sup> and Nyiregyháza-Bujtos,<sup>9</sup> that is to say at the time of the disc-butted shaft-hole axe ('battle axe') of Type C.<sup>10</sup> However, various tangless daggers with a hafting-plate carrying two or three rivet-holes (*Griffplattendolche*) were common in Hungary at this time. They are known from finds following the Koszider horizon,<sup>11</sup> though in this period they are not yet clearly modelled on what is generally understood as 'Peschiera'.

The main period of Peschiera forms in Hungary can at present be apprehended only from metal finds. Other aspects of the connection with north Italy, which would find expression in social activity, burial rites, or in other material remains, are still in our opinion, beyond the range of archaeological penetration.

Especially appropriate for the present study are several dagger and sword types, followed by the so-called Terremare sickles and certain median-winged axes. Violin bow fibulae are less significant, since Hungary has produced only a few stray finds. There are, in addition, razors and various types of pin.

### Swords with T-shaped flanged hilts

Examples from central Europe are not numerous: daggers from Szentgál (Veszprém, fig. 4:1, length 23.6 cm) and the Novák grave in Slovakia,<sup>12</sup> swords from Hammer, near Nürnberg, and Dollerup.<sup>13</sup>

Recently a similar sword has been discovered in a hoard from Ajak (Szabolcs-Szatmár). It was associated with disc-butted axes of Types D and E,<sup>14</sup> in a pot with oblique furrowing. The sword has a flanged, fan-shaped end to the hilt, which has a rivet-hole; its shoulders resemble the Hammer sword. The blade, which was broken, has a midrib and was found rolled into a spiral. This sword is later than the finds from Třebivlice and Asenkofen,<sup>15</sup> since the former contained a Type C disc-butted axe, and Ajak Types D and E. These axes represent two different hoard horizons in Hungary, namely Felsőbalog (C) and Ópályi (D and E). The later date is also consistent with the pot from Ajak.

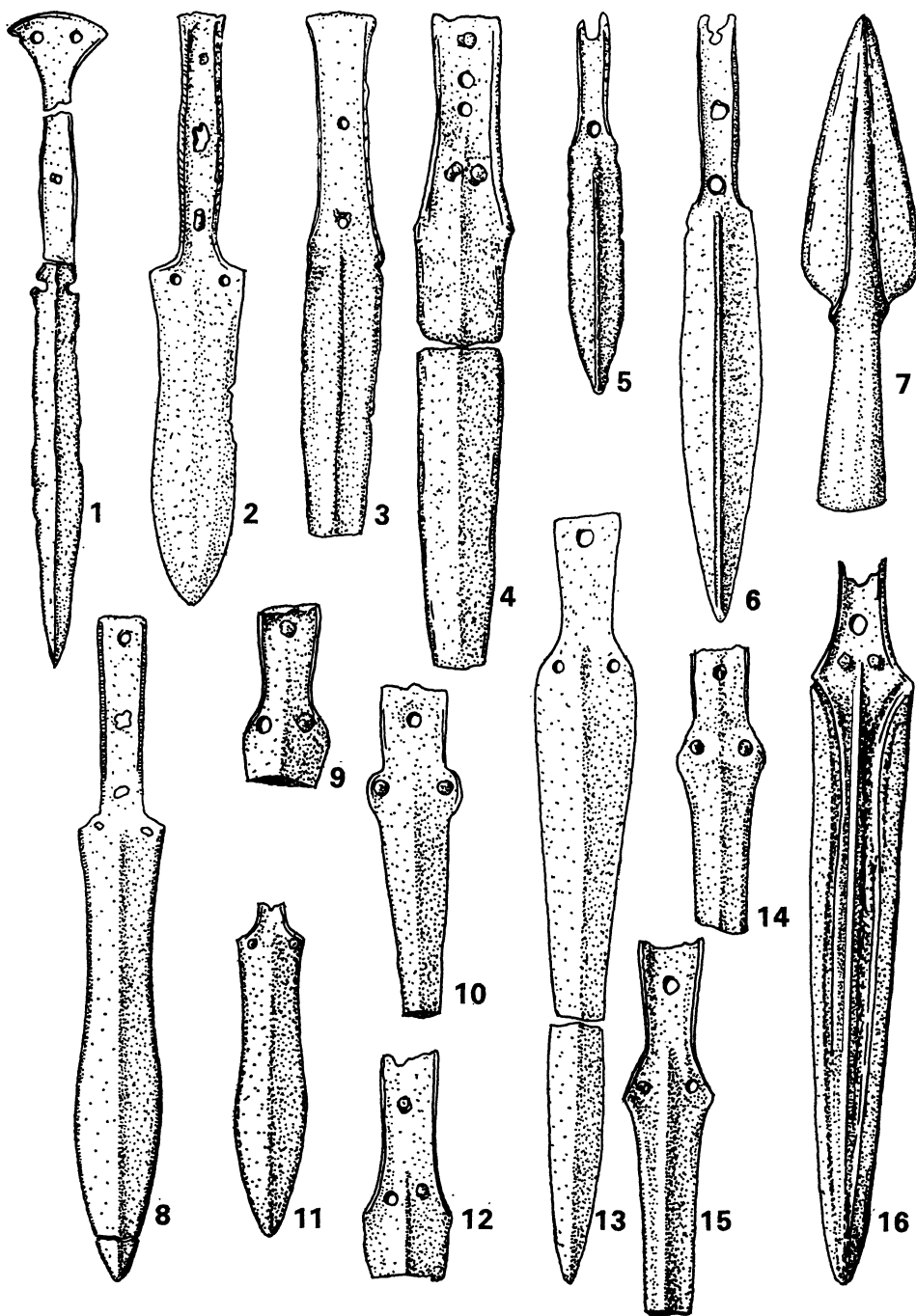


Figure 4. 1, Szentgál, 2, Nyiracsád, 3, Aszar, 4, Nyirtura, 5, Kom. Esztergom, 6, 7, Besenyőd, 8, Pápa, 9, 10, Balsa, 11, Felsőöbsza, 12, 13, Palotabozsók, 14, Orci, 15, Balatonkiliti, 16, Tiszaroff (1, 11, 12, 13, 16: *MNM*; 2, 4, 6, 7, 9, 10: *JAM*; 3: Röm.-Germ. Zentralmuseum, Mainz; 5, Balassi Múzeum, Esztergom; 8: former Egger Collection; 14, 15: Rippl-Rónay Múzeum, Kaposvár)

Scale about: 1:3

The Hungarian swords or daggers, like those from Hammer and Døllerup, relate more closely to certain 'Peschiera' forms which Peroni has called the Villa Capella Type (he also assigns the Novák dagger to it), and not directly with the Aegean. A dagger with fan-shaped hilt terminal is known from Peschiera-Imboccatura del Mincio as well as from Koronc6<sup>16</sup>, and a similar solid-hilted dagger also from the first site. Bronzes from Peschiera, Cremona<sup>17</sup> and Gazzade<sup>18</sup> could be taken as prototypes. The solid-hilted form, too, is not unknown in Hungary: a dagger from the Szabolcs-Szatmár county may be cited.<sup>19</sup> It should be noticed that daggers and swords with T-shaped flanged hilts from the Aegean have horizontally-projecting shoulders, while those from Italy and Hungary are oblique. The T-shaped hilt also reached Sicily, where it can be clearly recognized in the Modica find. The tradition is also continued in certain Villanova swords.<sup>20</sup>

In central and northern Europe swords and daggers with flanged T-shaped hilts fall within the 'Peschiera' horizon. Since the Ajak find, showing an indisputable association with Type D and E disc-butted axes, these swords can be assigned to a hoard horizon between that of Felsőbalog-Forró (with octagonal-hilted swords) and Aranyos I (with Riegsee swords): that is to say, they belong in the Ópályi horizon. The Italian daggers and swords which may be regarded as prototypes for the Hungarian derive from Aegean examples dated in the period LH III B-C.<sup>21</sup> The central European ones find their immediate models in the Terremare and Peschiera zone, though central European traditions also contributed to their development. Since however the oldest daggers of this type found in Sicily are tied to LH III C, no earlier date can be assumed for central European examples.<sup>22</sup> This would imply that they must fall in the twelfth century. The Riegsee horizon follows only afterwards, and thus Riegsee cannot be dated in the thirteenth century B.C.<sup>23</sup>

### Daggers with rod-tangs (*Griffangeldolche*)

A few daggers, which could better be called short swords, are of a rarely encountered type. Their distribution is remarkably wide, but sparse, and there are very few examples to be cited. Practically identical in form, with a straight, rod-like grip-tang and with a broadening towards the lower third of the blade, are finds from Pieve San Giacomo near Cremona in Italy,<sup>24</sup> from a grave at Essfeld in Lower Franconia<sup>25</sup> and from the Piricse II hoard (Szabolcs-Szatmár, fig. 5:1). From this last hoard (fig. 5:1-5) we also illustrate the winged axe with offset profile (no. 4) and a dagger with a much-broken flanged grip (no. 3) which Peroni has included among the Bosisio type of his Group B.<sup>26</sup> A date corresponding to that of the latest bronzes which can be assigned to a Peschiera context is indicated.

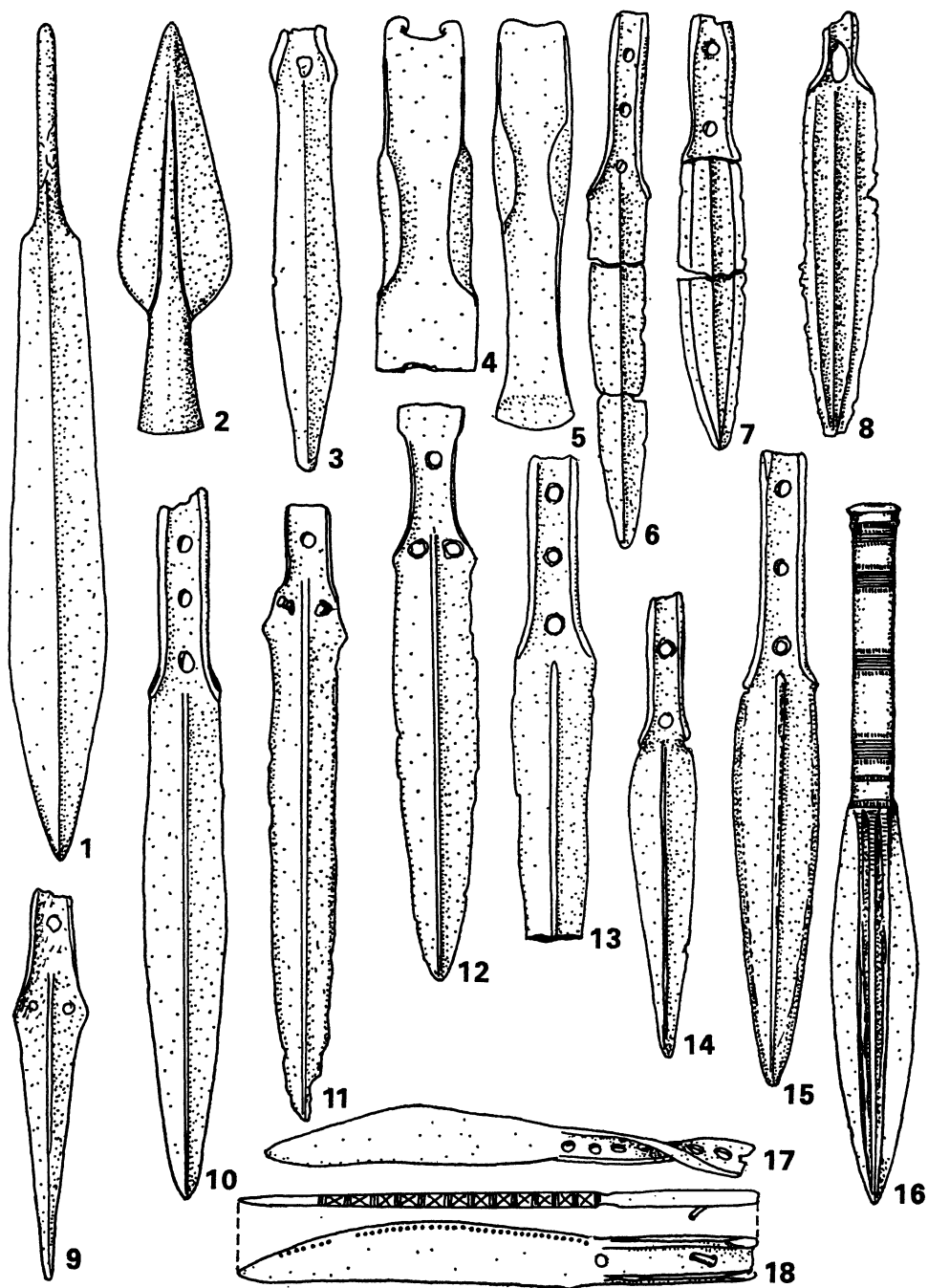


Figure 5. 1-5, Piricse, 6-8, Pétervására, 9, Zirc-Tündérmajor, 10, Piliny, 11, Veszprém, 12, Orosháza, 13-18, Benczurfalva (1-5: *JAM*; 9, 10, Veszprém Museum; 6-8, 11-18: *MNM*)

Scale about: 1:3

Another dagger of this family was found in somewhat uncertain circumstances at Keszthely-Apátomb (Zala).<sup>27</sup> It would appear that a fragment from the Aranyos I hoard (Borsod-Abauj-Zemplén) is a further example.<sup>28</sup> As we shall see below, Aranyos I also contained two flange-hilted daggers which can be designated as Hungarian variants of the Canegrate type. Two further daggers of this sort can be adduced from Peschiera,<sup>29</sup> which seems to indicate that not only are the immediate predecessors of the Central European daggers encountered in north Italy, but also their variants.

### Flange-hilted daggers (*Griffzungendolche*)

We follow here the typological classification of R. Peroni.<sup>30</sup>

To his Group A (Pertosa variant) he assigns only the examples from Styria, from Lower Austria and from Mosonszolnok.<sup>31</sup> The circumstances of this last find are not clear, and it is not known to which grave the two fibulae (one with spiral foot) belong. The dagger does not seem an obvious representative of Group A. Flange-hilted daggers of this group did not spread into the Carpathian basin.

To Group B Peroni assigns the mould from Fugyivásárhely (Osorheiu, in Rumania),<sup>32</sup> a dagger from Piliny<sup>33</sup> (Nógrád), a fragment from Piricse,<sup>34</sup> and finds from Somhegy<sup>35</sup> near Bakonybél (Veszprém) and Zagyvapálfalva (Nógrád). A dagger from Kisterenye-Hársashegy (Nógrád) represents the Vöclabruck type of Group B.<sup>36</sup> The find from Kaszapusztá (Hajdu-Bihar) is too fragmentary for classification.<sup>37</sup>

Comparison with Italian daggers shows that those from the Carpathian basin usually have slightly divergent features.

Peroni lists a great number of daggers of his Group C from the Carpathian basin. I should prefer on typological grounds to classify some differently, or as Hungarian variants. Those of the Garlasco type, or its Hungarian variants, are fairly numerous. Peroni lists four:<sup>38</sup> Nyiracsád-Nagyerdő (Szabolcs-Szatmár, fig. 4:2), Gilád in Rumania, Felsőújvár (Uiora de Sus, Rumania), Vily (Borsod-Abauj-Zemplén); and to these may be added Felsőzsolca (Borsod-Abauj-Zemplén),<sup>39</sup> Pápa (Veszprém, fig. 4:8),<sup>40</sup> Páncélcseh (Panticeu, Rumania)<sup>41</sup> and Piliny (Nógrád).<sup>42</sup> In addition there is the very small dagger of this sort from Felsődobsza (Borsod-Abauj-Zemplén, fig. 4, 11). These daggers are distinguished from Italian examples of Garlasco type by their horizontal shoulders, with a rivet-hole below each, rather than at the base of the hilt. Miniature examples of this sort, 5–6 cm long, are also known from Piliny, apparently from graves. In cremation graves of the Piliny culture miniature forms of weapons, tools and ornaments are very common (pl. 10:4). Bronze-hilted daggers of this sort, with similar blades, are also known from the

Carpathian basin. On the dagger from Felsőújvár the form of the massive hilt can still be seen.<sup>43</sup> Other examples with massive grip are from Huszt (Chust, USSR), Olcsvaapáti (Szabolcs-Szatmár) and a dagger from the Graffenried collection.<sup>44</sup>

There are a fair number of daggers which can be designated as Hungarian variants of the Canegrate type of Peroni's Group C. They are distinguished from Italian examples by a generally broader blade with strong midrib, and they have two or three rivet-holes on the hilt-tang in place of two at its base. Examples are: Besenyőd (Szabolcs-Szatmár, fig. 4:6-7) found with a spearhead, Piliny,<sup>45</sup> Pétervására (Heves, fig. 5:7-8) found with fig. 5, 6, and Benczurfalva (Nógrád) where there is also a Garlasco type (fig. 5:13-15).<sup>46</sup> These daggers have less blade width than, for example, those from Aranyos I. The circumstances of the Benczurfalva dagger finds are uncertain, though they could, from their patina, have constituted a closed find. Certain daggers which Peroni regarded as unclassifiable—for example from the Aranyos hoard,<sup>47</sup> from Gyergyóújfalu (Suseni, in Rumania<sup>48</sup>) and a dagger from the Esztergom Museum (Komárom, fig. 4:5)—are further examples of the Hungarian variant of the Canegrate type. Two daggers from Orosháza (Békés) can best be assigned to the Garlasco or Canegrate types, fig. 5:12.<sup>49</sup> They differ from the Italian in the absence of hilt-flanges. A dagger from Piliny (fig. 5:10) stands midway between the two types, though as in many of the Hungarian variants the two rivet-holes are absent from the base of the grip. A fragmentary dagger from Csabrendek would also seem to belong here.<sup>50</sup> The dagger from Veszprém-Arany János St (fig. 5:11) is similar to that from Orosháza. From Ság-Hill near Celldömölk (Vas) comes a dagger of the Sant Andrä-Virje type.<sup>51</sup>

For a general dating of Group C daggers we have the following evidence. In the Aranyos I hoard they are associated with a Riegsee sword, but there is also a flange-hilted sword which, in its semicircular shoulder outline, is still reminiscent of the Boiu form.<sup>52</sup> From the Piliny hoard<sup>53</sup> it can be inferred that the development of C daggers had already begun at the time of the Ópályi horizon. The daggers from Pétervására were associated with the same type of pin with peaked head as is found with Group D daggers at Öreglak (fig. 6:9) and at Otok-Privlake and Bingula-Divos in Yugoslavia.<sup>54</sup> It is difficult to date the Piliny find, which includes three daggers of the Peschiera series, three disc-butted shaft-hole axes and a double-armed 'macehead', since these 'battle axes' also persist later, generally in founders' hoards. The decoration on the macehead is very similar to the older one from Felsőbalog. The temporal difference between the Ópályi and Aranyos hoard horizons may not have been great, since many types can occur in them both in almost identical form. (In Transylvania finds like Felsőújvár can be taken as contemporary with the latter.) If this interpretation is correct, then Group C daggers are found not only in the Aranyos horizon but also already in the Ópályi, as are certain other types.



Whereas Group C flange-hilted daggers are known in almost equal numbers from Italy and Hungary, the distribution of Group D has shifted almost entirely into northern Yugoslavia and the Carpathian basin. This is a rather more uniform type than the others, and generally has two rivet-holes in the grip. Most Group D daggers have been found in hoards, and none is earlier than Bronze V. In several hoards they are associated with sickles of north Italian type, which is at once clear evidence for their dating and, perhaps, also of significance for the Italian bronzes. Without attempting an exhaustive list, a few examples may be given; most are representative of the Tenja type:<sup>55</sup> Nyirtura (Szabolcs-Szatmár, fig. 4:4), Nagykajdács (Tolna),<sup>56</sup> Orci (Somogy, fig. 4:14),<sup>57</sup> Balatonkiliti (Somogy, fig. 4:15), Palotabozsók (Baranya, fig. 4:12-3),<sup>58</sup> Balsa (Szabolcs-Szatmár, fig. 4:9-10)<sup>59</sup> and Ludány (Nógrád).<sup>60</sup>

The dagger with strongly-ribbed blade from Tiszaroff (Szolnok, fig. 4:16) should probably be included in Group D. From its form a dagger from Zomba (Tolna) belongs here, having rivets only on the grip-tang. Another from Zsibrák<sup>61</sup> is similar to one of the daggers from Balsa (fig. 4:10).

## Sickles

Among the great quantity of bronzes which are at home equally in Italy and Hungary the sickle known as the Terremare sickle requires especial consideration. It is a characteristic form north and south of the Po, among the Terremare and also in the Peschiera zone. In Hungary it makes a modest appearance alongside the three other main types of sickle.

In the earlier hoard finds of stage Bronze IIIb (the Koszider horizon) and Bronze IVa knobbed sickles (*Knopfsicheln*) predominate. At the end of Bronze IV tanged sickles (*Griffzungensicheln*) also appear, and in Transylvania hooked sickles (*Hakensicheln*); the latter are unknown west of the Tisza. The blades of the Terremare sickles meet the tang at an obtuse angle. We shall not attempt an analysis of the various forms here.

Without attempting a comprehensive list, a number of finds may be mentioned to illustrate the associations of these sickles in Hungary. The Peterd-Peterdi puszta (Baranya) hoard contains 43 (fig. 6:1-4), some of which are much used, together with 119 tanged sickles. Two associated daggers resemble the Tenja type (fig. 5:5-6). The Birján (Baranya) hoard has 64 similar tanged sickles together with only one of the north Italian type.<sup>62</sup> Two sickles (fig. 6:12-13) in the Berkesz-Csonkás (Szabolcs-Szatmár) hoard were associated with knobbed sickles and a disc-butted shaft-hole axe.<sup>63</sup> On one of them a short oblique rib joins the inner tang rib to that outlining the blade, as on a find from Scoglio del Tonno near Taranto (fig. 6:14). A

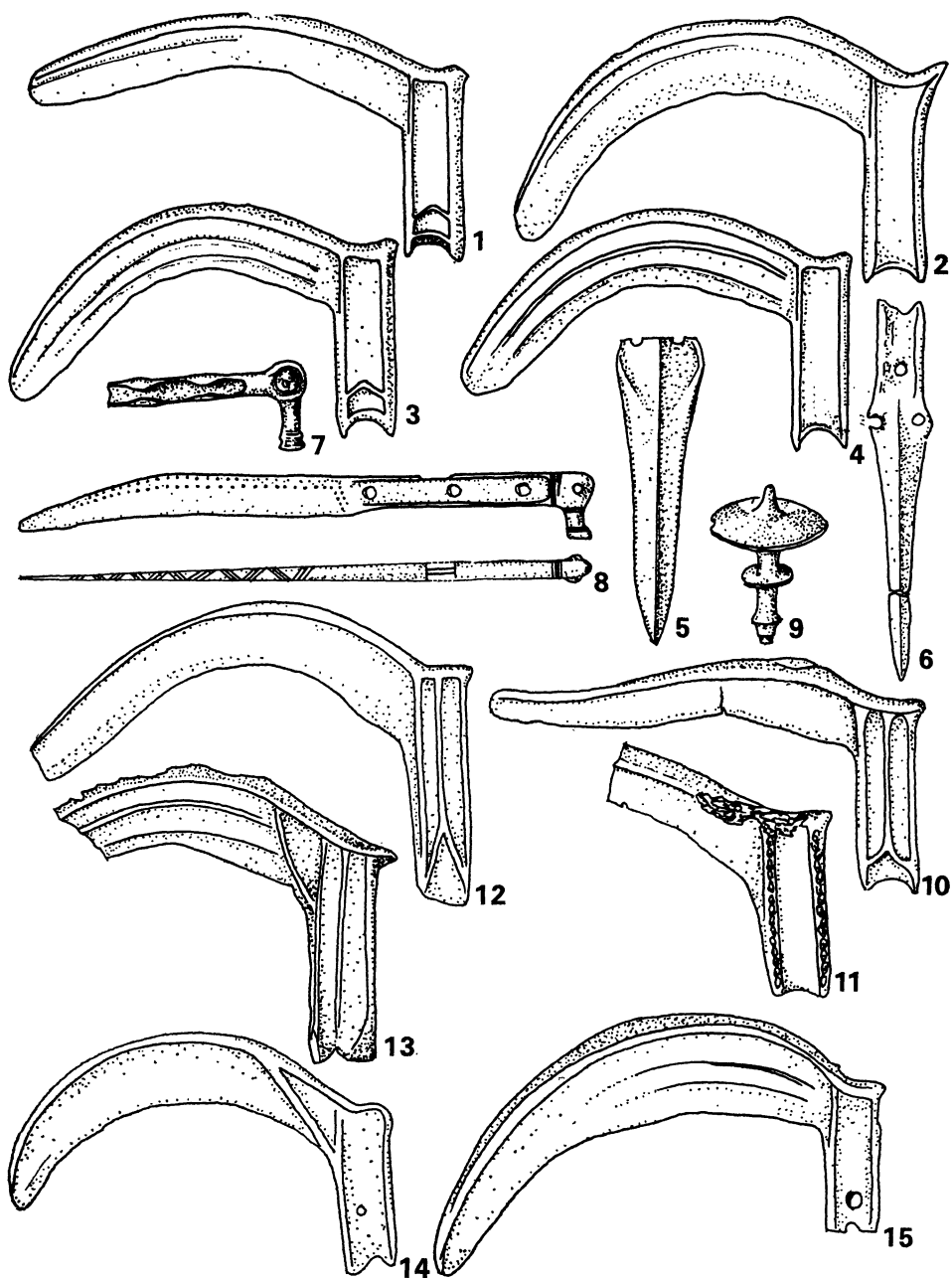


Figure 6. 1–7, Peterd-Peterdi puszta, 8, Near Sulmona, 9–11, Öreglak, 12–13, Berkesz-Csonkás, 14, Scoglio del Tonno, 15, Giovanni di Querciola  
(1–7: *JPM*; 8: after Peroni; 9–11: Kaposvár Museum; 12, 13: *JAM*; 14: after Müller-Karpe; 15: after Säflund

Scale about: 1:3

similar sickle comes from Tiszadob (Szabolcs-Szatmár).<sup>64</sup> The Balsa (Szabolcs-Szatmár) hoard contained two Terremare sickles together with knobbed and tanged sickles and also three flange-hilted daggers of Group D.<sup>65</sup> There were three sickles of north Italian type (fig. 6:10–11) with numerous tanged sickles in the Öreglak hoard; an associated dagger fragment can be classified in Peroni's Group D. The shape of a sickle from Csongrád recalls the north Italian form.<sup>66</sup> The large founder's hoard from Felsőújvár also contains Terremare sickles together with tanged and hooked examples and flange-hilted daggers of Group D.<sup>67</sup> A similar association is found at Ispánlaka (Spalnaca) in Rumania, where Hungarian variants of the north Italian type occur with the usual other sickle forms.<sup>68</sup> A hoard from Futtak in Yugoslavia has these variants and Group D daggers, together with a pin like that from Öreglak (fig. 6:9). Other hoards, apparently from the same horizon, containing Hungarian variants of the north Italian sickle are Püspökhatvan (Pest),<sup>69</sup> Harsány (Borsod-Abauj-Zemplén)<sup>70</sup> and Napkor-Piripuc (Szabolcs-Szatmár).<sup>71</sup>

The examples we have quoted show that the Terremare sickles in Hungary belong in a horizon in which Group D daggers are also current. The Hungarian examples however are not the oldest of this type, and their numbers are rather small. They originate in the north of Italy, down as far as the Terremare region.

The finds from Scoglio del Tonno and Berkesz also raise the question of dating. Following the Berkesz find it is impossible to date the sickles in the fourteenth century, and a twelfth-century date must be allowed.<sup>72</sup>

### Winged axes

We are concerned here only with those median-winged axes, numerous in north Italy, which have a shouldered offset above and below the wings. On Hungarian median-winged axes the upper offset is almost invariably absent, while below the wings the axe is frequently contracted to a narrower outline. In Italy the shouldered form persisted for a long time, and the shoulders may often terminate horizontally.

This axe is rare in Hungary and we can quote very few examples. There is one fragment in the Piricse II hoard<sup>73</sup> (fig. 5:4), and another from the Nagyrábé (Hajdu-Bihar) hoard. The latter is already associated with end-winged axes. Another fragment was found in the Tiszaeszlár (Szabolcs-Szatmár) hoard with end-winged axes and a sword with triple-moulded hilt (*Dreimulstschwert*).<sup>74</sup> From the associated bronzes, an example in the Debrecen-Dombostanya hoard seems contemporary with these last two.<sup>75</sup>

This form of axe with broad and indented butt is not unknown at Peschiera itself<sup>76</sup> and in the Terremare.<sup>77</sup> Moulds have also been found in Italy, e.g. at Casa-

lecchio.<sup>78</sup> The Merlara find contains axes – and also sickles – which would appear to represent the latest forms which can be regarded as Peschiera–Terremare, or as already transitional to Proto-Villanova.<sup>79</sup>

Similar axes, such as that in a grave at Ortucchio, are numerous as single finds in Italy, and are also known in 'Proto-Villanovan' hoards. By the early Iron Age they are already absent.<sup>80</sup>

To judge from the few Hungarian examples, these median-winged axes first appear with late Peschiera forms, but they also persist alongside end-winged axes.

### Flanged-tang knives (*Griffzungenmesser*)

The development of these knives cannot be considered quite independent of the Italian yet, since the form is functionally determined, it is difficult, except with specific types, to make close typological and chronological distinctions. The knives from Benczurfalva (fig. 5:17–18), including that with a twisted tang, are matched by finds in Italy. Another fragment, the knife handle from the Peterd hoard (fig. 6:7) should be noticed; its closest analogue comes from the region of Sulmone (fig. 6:8).<sup>81</sup> The Peterd hoard provides valuable dating evidence, since it contains Hungarian variants of the Terremare sickle and daggers of Group D.

### Razors

More work is needed on Hungarian material to achieve a better dating for the razors. Several finds are known from graves, but unfortunately the associated pottery and other finds have not been closely analysed. We may mention examples from the Nagybatony urn-graves 273, 367, 590, 753, 822 and 840 (Piliny culture).<sup>82</sup> A fine collection came from Piliny itself (pl. 10:2–3, 5–9), though from unrecorded associations. Two razors may be quoted from Benczurfalva,<sup>83</sup> and an example from the Badacsonyt-Köbölkut (Veszprém) hoard<sup>84</sup> compares with Piliny (pl. 10:2). There is also a mould from an unknown find-spot.<sup>85</sup>

The oldest razor from the Carpathian basin is probably that found at Sopronnyék (Neckenmarkt) in the Burgenland,<sup>86</sup> with a dagger still strongly reminiscent of the Koszider horizon. A partly indigenous series may have developed in Hungary, and it is difficult to determine exactly which razors are Italian and which Hungarian. All the examples mentioned seem to have been especially at home in the context of the Piliny culture.

There are also two crescentic razors with ring ends (pl. 10:10–11) from Piliny. They are of especial importance, since in Italy the type already relates to Proto-Villanova.<sup>87</sup> We do not thereby wish to assert that the Piliny culture survived into this stage, only that evidently later finds have been made at Piliny.

It is difficult to say whether the razors should be grouped with Peschiera forms. Obviously razors were made in Hungary (*cf.* the mould), yet they do not seem to have been an entirely independent development. This is especially so of those which are already of Proto-Villanovan form.

## Pins

Pins which can be compared with north Italian forms are fairly numerous in the Carpathian basin. We shall mention only one important find, from Ujgyarmat (Nova Lehota) in Slovakia.<sup>88</sup> The predominant type is a pin with decorated spherical, or depressed-spherical, head and decorated swollen neck. These are unusually long. The Alsójárá (Jara de Jos)<sup>89</sup> hoard in Rumania is also important; it contains a wart-necked pin of the type which belongs in the Ópályi hoard horizon.<sup>90</sup> These pins are older than disc-headed pins and pins with peaked head,<sup>91</sup> like those in the Pétervására and Öreglak (fig. 6:9) finds. Thus two horizons can be distinguished: pins contemporary with Ópályi (generally with swollen neck), and those like the Pétervására and Öreglak finds.

Similar pins are also known from further north, as also are butterfly-shaped razors, for example in the incineration cemetery of the Silesian Lausitz culture at Diviaky (Turócdívék) in Slovakia.<sup>92</sup> A thorough typological study is required to determine in all instances – and particularly with regard to pins – what should be related to ‘Peschiera’.

## Violin-bow fibulae

There are very few examples in Hungary, and the circumstances of the finds are unclear. From among the oldest are: (i) a wire fibula, without its spiral foot, from Benczurfalva. This is however of doubtful authenticity, possibly ‘reconstructed’ out of wire by the finder; also the patina differs from the rest of the hoard (fig. 5:13–18). (ii) A fibula with bow made from two twisted wires from the banks of the Danube at Esztergom.<sup>93</sup> (iii) A violin-bow fibula apparently from the Esztergom county and another from Vác. Analogues are known from Peschiera itself.<sup>94</sup>

The violin-bow fibula with spiral foot from Mosonyszolnok is certainly more recent. Though the other contents of the grave are unknown, it may be recalled that one grave at Mosonyszolnok produced a Group D dagger.<sup>95</sup>

### Summary

In this study we have not been concerned with the oldest bronzes known from Peschiera, such as the various tangless daggers with rivetted butts (*Griffplattendolche*). Although these are not uniform, they represent in the main an older horizon than the majority of flange-hilted daggers (*Griffzungendolche*), which belong predominantly among what is generally termed 'Peschiera'. Our analysis shows that classic Peschiera forms do not occur in Hungary at the time of the Felsőbalog horizon. They appear afterwards in the Ópályi horizon, as seen in the Ajak hoard and, apparently, also at Piliny, Ujgyarmat and Alsójárá.<sup>96</sup> Daggers with T-shaped flanged hilts seem to belong among the oldest classic 'Peschiera' forms found in Hungary. There is no evidence that they derive from any direct connection with the Aegean; connections with the Peschiera zone are sufficient explanation for their diffusion. A sword of similar form from the Ajak hoard (Ópályi horizon) affords important dating evidence. In Sicily T-shaped daggers are no older than LH III C, and thus in Hungary also they cannot date before the twelfth century B.C. Consequently, the subsequent Aranyos horizon must fall still later, at the end of the twelfth and into the first half of the eleventh century B.C. That is likewise the date of Riegsee finds in Hungary, and many 'Peschiera'-type bronzes – sickles, flange-hilted daggers, razors etc. – belong in this horizon. This is confirmed by numerous associations: Öreglak, Birján, Aranyos, Berkesz, Felsőújvár etc.

An attempt to synchronize this later Peschiera horizon in Hungary, at the beginning of Bronze V, with Italy must take account of the hoards of Piricse II (axe and flange-hilted dagger), Peterd (Group D daggers and sickles) and Merlara (Venice).<sup>97</sup> At Merlara the relevant axes and sickles are associated with a Kurd bucket, so that the find is already approaching Proto-Villanova. In Hungary, too, razors like pl. 10:10–11 are confirmed to the following phase, and show that there was also some currency of Proto-Villanovan bronzes in the Carpathian basin, although on a more modest scale than during the Peschiera period.<sup>98</sup>

The conclusions we have reached on chronology are in substantial agreement with those argued independently by Pallottino in Italy.<sup>99</sup> Our analysis shows that 'Peschiera' comprises two horizons, Ópályi and Aranyos, in which its classic forms were current, but that these cannot be assigned, respectively, to the fourteenth and the thirteenth century. The indications of the Perati graves 12 and 38 must be

taken into account.<sup>100</sup> Nothing found in this cemetery would be older than the final phase of LH III B,<sup>101</sup> and the majority of the finds already belong in the Granary phase.

A critical question is the significance of these bronzes among Hungarian material. The tangless *Griffplattendolche* which occur after the Koszider horizon and in the Peschiera zone are comparatively uniform. In Hungary they come predominantly from graves. The question arises whether Tumulus elements could not be held responsible for this comparative uniformity, penetrating at the end of Bronze III into Hungary and north Italy alike.<sup>102</sup> Further typological analysis of these rivetted daggers is required to determine their groupings, and this could obviously also lead to further results in the Peschiera problem.

Flange-hilted daggers of Groups B and C were current both in Hungary and Italy. They were the principal types, though dagger finds from hoards are not numerous. It should however be stressed that, despite many common features, most of the examples from Hungary are only Hungarian variants or imitations. Group D daggers are then to be regarded in general as a Hungarian-north Balkan type, related only genetically to Groups B and C. The Terremare-Peschiera sickles found in Hungary derive from the Italian. Compared with native types, their number is slight, though they are found throughout almost the whole Carpathian basin. They are often associated with Group D daggers, e.g. at Peterd. Median-winged axes of the type known equally in the Terremare and from Peschiera are exceptional in Hungary. There can be no doubt that they originate in Italy. It is difficult to say how closely Hungarian 'Peschiera' knives relate to the Italian. While there is as yet no full chronological analysis of the Italian Peschiera material, in some instances we cannot decide where a knife originates. Certain razors must be presumed Italian, though there is need to consider how far in particular the oldest connect with Tumulus forms.

Outstanding problems are:

- (i) which bronzes, in Hungary are north Italy alike, derive from 'Tumulus influence'?
- (ii) By what means were the import and imitation of Terremare and Peschiera forms in Hungary effected (e.g. the Group B and C daggers, T-flanged swords and occasional rod-tanged daggers, Peschiera axes, violin-bow fibulae etc.)?
- (iii) What historical conditions caused a movement of Peschiera forms into Hungary?
- (iv) What were the extent and nature of the connections between 'Peschiera' and Hungary; when did they begin and when did they end?

The latest bronzes which can be related to 'Peschiera', such as Group D daggers and sickles, derive from finds which also contain Riegsee swords (Aranyos, Felsőúj-

vár). The Felsőújvár hoard contained belts similar to one from Pécska, and the Pécska hoard was found in a fine Gáva vessel.<sup>103</sup> Thus 'Peschiera' in Hungary lasted until Gáva times, and in Italy certain Peschiera forms were in use until Proto-Villanova.

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I am most grateful to Professor P. Graziosi (Florence) and Professor M. Pallottino (Rome) for enabling me to make a study tour in Italy. My thanks are also due to other colleagues who gave me assistance: L. Bernabó-Brea (Syracuse), G. Bermond-Montanari (Bologna), M. Cavalier (Lipari), L. Fasani (Verona), G. Fogolari (Padua), B. Forlati (Venice), D. Lollini (Ancona), G. Maetzke (Florence), G. Mansuelli (Bologna), R. Peroni (Rome) and S. Puglisi (Rome).

## Notes

JAM—Jósa András Múzeum, Nyiregyháza

JPM—Janus Pannonius Múzeum, Pécs

MNM—Magyar Nemzeti Múzeum, Budapest

1 *Compte-rendu* 1876 (Budapest, 1878) vol. II, 20–3.

2 *PPS* XIV (1948), 196–218.

3 *Bonn. Jahrb.* 147 (1942), 1–90.

4 *PPS* 32 (1966), 262–312. See especially distribution map 288, Map B.—additions: A. Mozsolics, *Arch. Ért.* 95 (1968), 61–5.

5 A. Mozsolics, *Acta Arch. Hung.* 8 (1958), 135–56. Mozsolics, *Bronzefunde des Karpatenbeckens* (hereafter *Bronzefunde*) (Budapest, 1967), 123–6.

6 R. Peroni. *Memorie del Museo Civico di Storia Naturale, Verona* 11 (1963), 71.

7 Hampel, *A Bronzkor emlékei Magyarhonban* I–III (hereafter *Bronzkor*) (1886–96), pl. XCIV.

8 Hampel, *Bronzkor*, pl. CLXII.

9 *Jósa András Múzeum évkönyve* VI–VII (1963–64), pl. XLIII.

10 Mozsolics, *Bronzefunde*, 46–8.

11 See for example the dagger from Zagyvapálfalva: *Arch. Ért.* 40 (1923–26), 67, fig. 24; *Acta Arch. Hung.* 19 (1967), pl. XVII, 5, pl. XXVII, 19. Nagybatony: *Arch. Ért.* 81 (1954), 40, Abb. 10, 1–3.

12 Hampel, *Bronzkor*, pl. CXXXVII, 25.

13 J. D. Cowen, 36. *BRGK.*, 61 f. M. Gimbutas, *Studien aus Alteuropa* (1964), 171–3. Both authors stress that these swords had Late Mycenaean prototypes. N. K. Sandars classifies them among her 'Class F' swords (*AJA* 67, 1963, 133–9), several of which were buried in LH III B contexts (eg. Moulana Tholos A). Perati grave 38 is already of the Granary phase, and the Treasure of Mycenae of c. 1200. Mylonas



- dates this last in LH III C (*AJA* 66, 1962, 406–8). Miss Sandars dates the Sicilian finds around 1100. See also the T-sword with horned shoulders from Perati grave 12, found with a knife with a duck's head handle: *Praktika* (1957), 96, fig. 5–6.
- 14 Jóna András Muz., Nyiregyháza (JAM). For classification and associations of disc-butt axes: Mozsolics, *Bronzefunde*, 46–9.
  - 15 36. *BRGK*, pl. 17, 3. Also see pl. 18, 1 (Asenkofen), 2 (Hammer).
  - 16 My thanks are due to L. Fasani, Museum of Verona. Koronc (Kom. Győr-Sopron): S. Mithay, *Bronzkori kulturák Győr környékén*. (Győr, 1941), pl. XVIII, 6.
  - 17 H. Müller-Karpe, *Beiträge zur Chronologie der Urnenfelderzeit nördlich und südlich der Alpen* 2 (Röm.-Germ.Forsch.22, (1959), pl. 89, 2; pl. 107, 25–6.
  - 18 G. Säflund, *Le Terremare delle provincie di Modena, Reggio Emilia, Parma, Piacenza*, (Uppsala, 1939), pl. 46, 10.
  - 19 Hampel, *Bronzkor*, pl. CCLIV, 3. A dagger from Benczurfalva, fig. 2, 16 MNM Inv. Nr. 70/1939/5) is similar, though the pommel is somewhat broader. The bronze-hilted dagger from the Tamásfalva hoard is perhaps intermediate in this series: Hampel, *Bronzkor*, pl. CXXVI, 1–4.
  - 20 L. Bernabé-Brea, *Sicily before the Greeks* (London, 1957), fig. 43, d, h. H. Hencken, *Tarquimia, Villanovans and Early Etruscans* (Amer. School Prehist. Res. 23, 1968), fig. 34, 1 grave from Selciatello; fig. 106, b Impiccato, grave 1 etc. and p. 466–7.
  - 21 N. K. Sandars, *AJA* 67 (1963), 133–9.
  - 22 T. G. E. Powell, *PPS* XXIX (1963), 217.
  - 23 Müller-Karpe, *Chronologie*, fig. 64.
  - 24 *Ibid.*, pl. 89, 19.
  - 25 *Ibid.*, pl. 205, 20. Dating of grave p. 176: H A1 according to Müller-Karpe.
  - 26 R. Peroni, 'Zur Gruppierung der mitteleuropäischen Griffzungendolche der späten Bronzezeit', *Badische Fundberichte* 20 (1956), 69–92. Here p. 84.
  - 27 J. Sági, *Arch. Ért.* 29 (1909), 350, fig. 7, 6.
  - 28 Hampel, *Bronzkor*, pl. CCXVI, 9.
  - 29 Müller-Karpe, *Chronologie*, pl. 106, 1. The second dagger has a hook-shaped, reverted tang and also differs from our other examples in the shoulders: A. Aspes, *L'età del bronzo media a recente nelle stazioni palafitticole dell'Anfiteatro Morenico del Garda* (Milan, 1967. Dissertation), pl. LXVI, 1.
  - 30 Peroni, *Griffzungendolche*, 69–92, pl. 1–8.
  - 31 Hampel, *Bronzkor*, pl. CLXXXVII, 2.
  - 32 *Arch. Ért.* 24 (1904), 205, fig. 2.
  - 33 *Ibid.*, 13 (1879), 103–8. Peroni classifies it as Bosisio type (Nr. 2), but we should rather see it as Garlasco type.
  - 34 This must be from the Piricse II hoard: fig. 5, 3.
  - 35 Fr. Holste, *Hortfunde Südeuropas* (Marburg/Lahn, 1951), pl. 23, 12.
  - 36 *Arch. Közl.* 2 (1861), 90, pl. 5, 20.
  - 37 Peroni, *Griffzungendolche*, 83–5.
  - 38 *Ibid.*, 87.
  - 39 The two other daggers in the find are of Bosisio type. In the Miskolc Museum.
  - 40 *Catalogue of the Collection of Bronze Arms and Implements formed by the late Dr S. Egger* (London, 1891), pl. IX, 65.
  - 41 Hampel, *Bronzkor*, pl. CXLIII, 9.

- 42 *Arch. Ért.* 13 (1879) following 104, fig. 2.
- 43 Holste, *Hortfunde*, pl. 46, 9.
- 44 A. Mozsolics, *Arch. Ért.* 79 (1952), 96–8, pl. XXII, 1.
- 45 *Arch. Ért.* 13 (1879), fig. 3 following 104.
- 46 In MNM, Inv.-Nr: 70/1939.
- 47 Hampel, *Bronzkor*, pl. CCXVI, 7–8.
- 48 *Dacia* 1 (1924), 343 ff, fig. 75.
- 49 In MNM, Inv.-Nr: 103 (1893) 2–3. The other is similar to that illustrated.
- 50 E. Patek, *Arch. Hung.* XLIV (1968), pl. LIX, 13.
- 51 *Ibid.*, pl. XXXV, 5.
- 52 J. D. Cowen, *Bericht V. Intern. Kongress für Vor- und Frühgeschichte, Hamburg 1958* (1961), 209 ff. Fr. Holste, *Die bronzezeitlichen Vollgriffschwerter Bayerns* (München 1953), 29, has dated some hoards, such as Piricse I, Aranyos, Felsőújvár, as already, from their associations, of the Hallstatt period.
- 53 *Arch. Ért.* 13 (1879), pl. following 104.
- 54 Holste, *Hortfunde*, pl. 5, 15, 17, 23, 29; pl. 10, 23 and pl. 11, 19.
- 55 Peroni, *Griffzungendolche*, pl. 23–4.
- 56 A fragment, apparently belonging in this group. MNM.
- 57 Museum in Kaposvár. Hampel, *Bronzkor*, pl. CXVII, 22.
- 58 Hampel, *Bronzkor*, pl. XCVII-C.
- 59 JAM. Kemenczei, *Jósa András Múzeum Évkönyve* VI–VII (1963–64), pl. IV–IX.
- 60 After a photograph in the records of the MNM.
- 61 E. Patek, *Arch. Hung.* XLIV (1968), pl. LXXVIII, 18–19.
- 62 JPM, Pécs, unpublished.
- 63 *Jósa András Múzeum Évkönyve*, VI–VII (1963–64) pl. X–XV. Peroni has told me he would date this find a phase earlier than Proto-Villanovan.
- 64 JAM, Nyiregyháza.
- 65 *Jósa András Múzeum Évkönyve*, VI–VII (1963–64), pl. IV, 3; V; VII, 65, 75–6.
- 66 Holste, *Hortfunde*, pl. 29, 28. A sickle fragment is similar to that from Berkesz (fig. 6, 13).
- 67 Holste, *op. cit.*, pl. 46, 11, 24, 28.
- 68 Hampel, *Bronzkor*, pl. CXLVIII, 28, 31–33.
- 69 In MNM. Inv.-Nr: 13 (1946) 1–175.
- 70 MNM. The hoard contains socketed axes with pointed-oval cross-section similar to those from Berkesz-Csonkás.
- 71 T. Kemenczei, *Jósa András Múzeum Évkönyve* VIII–IX (1965–66), pl. VI, 2.
- 72 Peroni, *Griffzungendolche*, 73. Cf. also Müller-Karpe, *Chronologie*, 34: 'no conclusions can be drawn from the particular stratification of single finds about their relative age', with 35: 'this settlement begins with Mycenaean pottery of the Amarna period, with decorated Italian pottery of Apennine type and with bronzes of the full Peschiera horizon' (further on 184). The dating of Peschiera types cannot be considered as solved by these contradictory statements.
- 73 MNM. Inv.-Nr: 17 (1949) 1–34. Unpublished.
- 74 *Jósa András Múzeum Évkönyve* VI–VII (1963–64), pl. LIX, 7, 11–13.
- 75 Déri Museum in Debrecen, unpublished.
- 76 Müller-Karpe, *Chronologie*, pl. 103, 36, 38.

- 77 Säfliund, *Le terremare*, pl. 53, 6, 8; pl. 54, 1, 7, Müller-Karpe, *Chronologie*, illustrates only two similar from south Bavaria: pl. 195, 9 (Nemmingen), 10 (Töging).
- 78 Montelius, *La civilisation primitive en Italie*, pl. 30, 6; a similar axe from the same site: pl. 30, 4. – see further pl. 35, 2, 3; pl. 120, 16; pl. 131, 11.
- 79 Müller-Karpe, *Chronologie*, pl. 83, 1–6, 8–21. Hampel illustrates two winged axes of Italian type (*Bronzkor*, pl. VI, 8–9), which he designates ‘foreign types’. It is not easy to determine from the illustration how much of the axe is broken away above the wings. For Hungarian median-winged axes see *ibid.*, pl. VII, 5–7.
- 80 R. Peroni, *Rivista di Scienze Preistoriche* XVI (1961), 155, pl. 12, 1. Further analogues in his n. 119.
- 81 R. Peroni, *op. cit.*, pl. IV, 2 and 134 f.
- 82 P. Patay, *Arch. Ért.* 81 (1954), 33–47, fig. 10, 4–7; fig. 15, 1–2.
- 83 MNM, Inv.-Nr: 70 (1939) 10, 11.
- 84 A. Mozsolics, *Arch. Ért.* 76 (1949), pl. XXII, 9.
- 85 Hampel, *Bronzkor*, pl. XVII, 6.
- 86 *Ibid.*, pl. CXCIV, 5.
- 87 Fr. Staré, *Arheoloski Vestnik* VIII (1957), 220–34. See also the chronological table on 234. The razors from Piliny have good analogues in Yugoslavia at Ljubljana, Mokronog and Pobrežje: pl. 1, 1, 4–6.
- 88 Both in MNM.
- 89 M. Roska, *Erdély régészeti repertórium* (Kolozsvár, 1942), 19, fig. 9. – Hampel, *Bronzkor*, pl. LII, 4–6.
- 90 A. Mozsolics, *Acta Arch. Hung.* 12 (1960), 121 f. *Acta Arch. Hung.* 15 (1963), pl. V, 5–6.
- 91 In Peschiera: Müller-Karpe, *Chronologie*, pl. 104, fig. 33–6.
- 92 F. Pivovarová, *Slov. Arch.* VII (1959), 324–5, pl. II.
- 93 *Arch. Hung.* XLIV (1968), pl. LXIV, 7.
- 94 In Museum in Esztergom and in MNM. – Müller-Karpe, *Chronologie*, pl. 103, 4, 6, 11.
- 95 Hampel, *Bronzkor*, pl. CLXXXVI, 7–8; CLXXXVII, 2.
- 96 The two socketed axes which Roska assigns to the Alsójára hoard with a query are much later: *Erdély*, 19, fig. 10.
- 97 Müller-Karpe, *Chronologie*, pl. 83.
- 98 Cf. perhaps the winged axes from later hoards such as Nagyrábé, Debrecen-Dombostanya etc.
- 99 *Atti del VI Congresso Internazionale delle Scienze Preistoriche e Protostoriche* II (Rome, 1965), 396–401 and pl. LXXVII.
- 100 *Praktika* (1955/1960), 106–7 for description of grave 38 burial 2; all the pottery is LH III C. For grave 12: *Praktika* (1954/57), 96, fig. 5–6. The graves begin in the middle of the thirteenth century and the majority represent full LH III C: N. K. Sandars *AJA* 67 (1963), 135.
- 101 In the light of new research and finds, the value of the evidence from Scoglio del Tonno must be questioned: Müller-Karpe, *Chronologie*, fig. 64.
- 102 See the distribution of Sauerbrunn-Keszthely-Boiu swords: *Arch. Ért.* 95 (1968), 64, fig. 4.
- 103 M. Roska, *Erdély*, 224 for literature.

five

## Openwork 'bird-cage' bronzes

*Jan Bouzek*



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The 'bird-cages' or openwork rattles of the European Early Iron Age and their eastern relationships have never been studied completely. The only attempt of this kind is an article by Arne;<sup>1</sup> he confined himself, however, to establishing that parallels exist between Luristan, Greece and eastern Europe, and mentioned only a few examples from each territory. In addition some lists of bird-cages, or typological and chronological analyses, have been published for particular territories. For other areas, when it has not been possible to visit all the museums, only published examples are considered here. With very few exceptions unpublished pieces are not included in our lists, printed in the appendix; even so these are long enough.

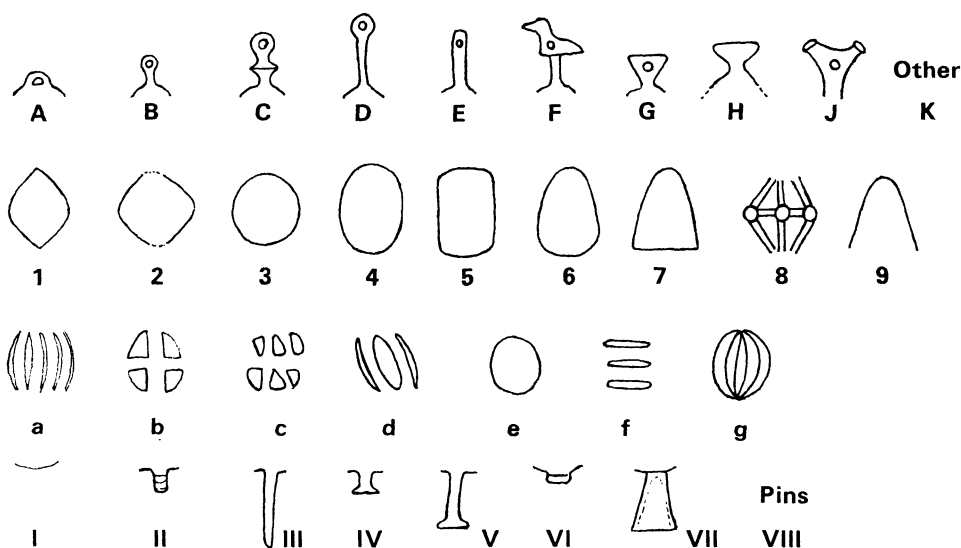


Figure 7. Key to descriptions of the cages. First row loops; second row body shape; third row openings (g cage of wire); fourth row base and leg

Bird-cages from Europe are our main theme; the Asiatic parallels are treated in a more general way. A key to the descriptions in the lists is given in fig. 7.

## Luristan (see List I)

Like most Luristan bronzes the bird-cages are in the main heavy and crude, both in their execution and in the shape of the body. Many are actual rattles, with pellets inside. The bars are thick and rounded from the outside. Everything gives the impression of a smith's work.

The most common shape is a fairly large, rounded or plum-shaped rattle with a short loop and leg and broadening foot (I, 1, fig. 8:3-4, 6). The one from Tepe Sialk Necropolis B (fig. 8:12) also belongs to this group, besides others from Luristan without provenance. A related example (in Berlin) with shorter foot is presumed to be from Tepe Giyan.

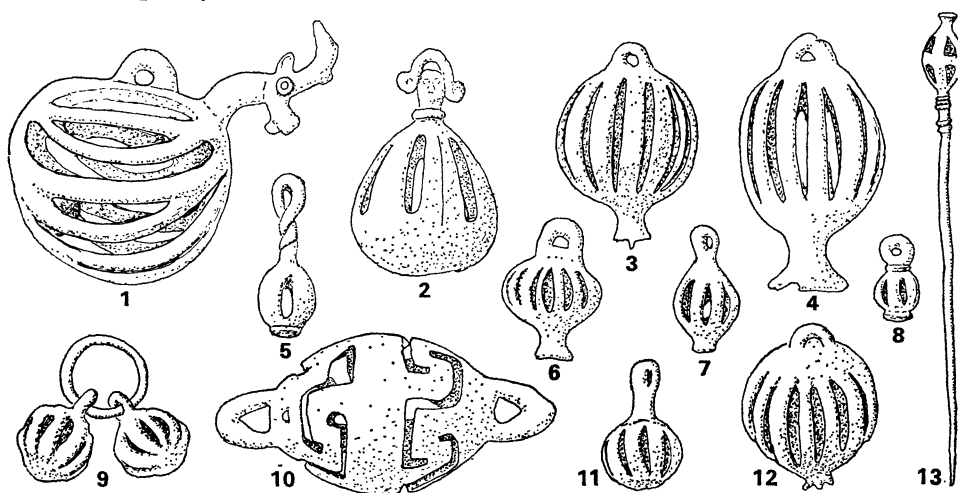


Figure 8. 1-11, 13, Luristan, 12, Tepe Sialk. After Arne, Ghirshman, Godard, Nagel and van Wijngaarden. Cf. List I\*

On smaller cages the loop is usually differentiated from the body (I, 2, fig. 8:7-8), sometimes with a rod between (I, 3, fig. 8:5, twisted from double wire). These were probably not cast, but hammered together from thick wire. The body is globular or biconical, the foot either short or entirely absent (I, 4, fig. 8:9, 11), and then the base becomes lemon-shaped, probably for technical reasons. The cage of related pins (I, 7, fig. 8:13) often has a horizontal bar in the centre.

A late and developed group of Luristan bird-cages is well represented in the Stockholm collection (I, 5). They include one finely cast with Janus head (fig. 8:2) and one with horizontal bars and ibex head (fig. 8:1). Others without figures include sections of chains, with a loop at both ends and ornamental openwork (I, 6, fig. 8:10).

\* It has not been possible to present all bronzes, illustrated from so many various sources, at a uniform scale. However, the scales within each figure are roughly comparable, and dimensions, wherever possible, are mentioned in the text.

The dating of Luristan bronzes remains uncertain, though in recent years a low chronology has prevailed. According to Ghirshman<sup>2</sup> most of the bronzes derive from the seventh to eighth centuries and Tepe Sialk B begins *c.* 1000 B.C. Edith Porada<sup>3</sup> dates the first bronzes 1200/1000 and later ones 1000/800. Earlier estimates of date were all higher.<sup>4</sup> It would appear that some of the rattles began earlier than the eighth century B.C., though this is not certain.

Most of the Luristan bird-cages, as their large size and crude execution show, were not personal ornaments, nor has any close relation to pole-tops been recorded.<sup>5</sup> They were most probably decorative horse-trappings.

From the towns of Urartu there are many bells,<sup>6</sup> including ones with vertical fluting, but as far as I know no bird-cages. Certain Urartuan gods, however, are depicted with an object hanging on a cord, which might be a rattle.<sup>7</sup> The bells are attested by an inscription in the first half of the eighth century,<sup>8</sup> but are probably also earlier.

### The Caucasus (see List II)

The distribution of bird-cages in the Caucasus falls into three provinces. From the south-east of Soviet Azerbaijan (Talysh) there are many bells,<sup>9</sup> which are often in openwork (fig. 9:5-6, and *cf.* 3, a dagger pommel). But as far as I know there are no true cages.

From the rest of Transcaucasia the richest finds of bird-cages come from Redkin Lager (II, 1, fig. 9, 7-10). They are little pendants (3-5 cm long), apparently personal ornaments, plum-shaped or biconical, without a foot and mostly with complicated openings. Also found at the site are openwork bells with a solid base (II, 3). Wire cages with several loops (II, 2, fig. 9:11) come from Gjulanplu; they have parallels in gold in the treasures from Nosiri and Parcchanekevi. The Caucasian cages were apparently parts of complicated pendants with chains, as were similar birds in openwork (II, 4, fig. 10:1). These openwork birds, which served as pendants (fig. 10:1, and 3) or as terminals (fig. 10:7), may also be similar to the cages in significance. They show the close connection between the bird and the bird-cage form which is still more apparent among European 'Thraco-Cimmerian' cages and in Greece. The technique of openwork bronze-casting had long been popular in the Caucasus for dagger terminals (*cf.* fig. 9:3),<sup>10</sup> and it seems probable that openwork bird-cages originated in the Caucasus. Not all of the finds we have cited are earlier than the eighth century, but at least those from Redkin Lager are clearly pre-Iron Age.<sup>11</sup>

North of the Caucasus in the area of the Kuban culture<sup>12</sup> openwork bells with solid bases were in use (II, 3, fig. 9:1, 12), and many related objects came from the Kasbek treasure, which is pre-Scythian. This hoard included a sceptre head with two



cages (fig. 9:13), a chain link with a central cage and four hooks (fig. 9:14) and phalerae with a cage as central knob. The openwork stag (fig. 10:4-5) shows southern influence.<sup>13</sup> The openwork bells represented in the find (fig. 10:2) are as common in the Kuban as in Transcaucasia.<sup>14</sup> Much from the Kuban culture finds

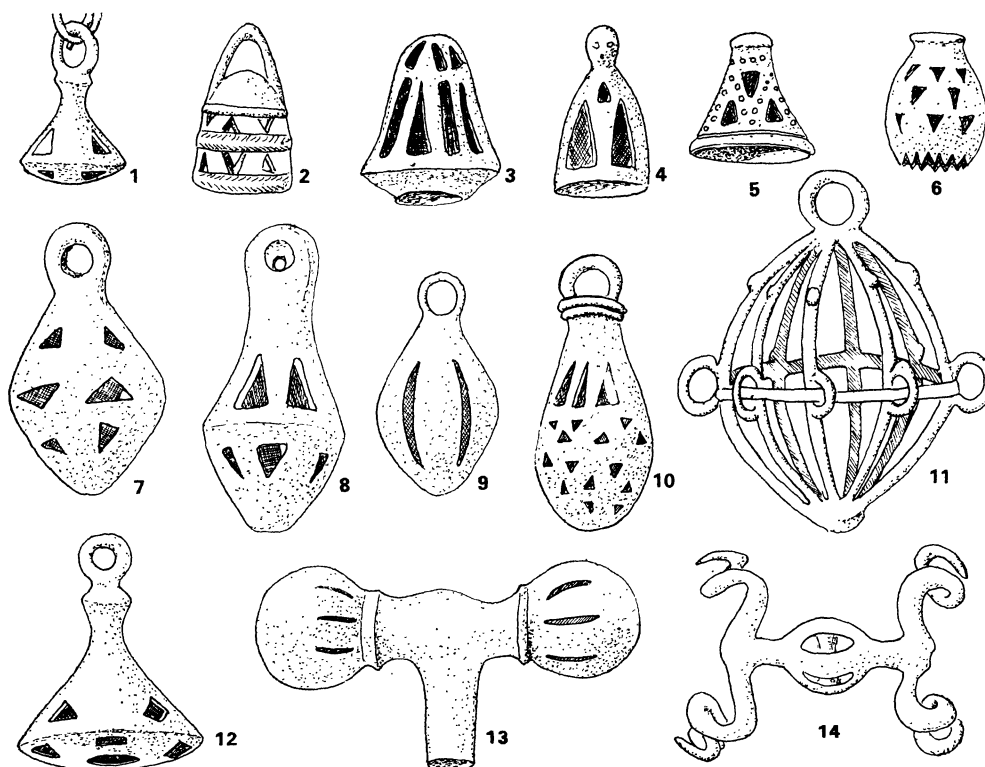


Figure 9. The Caucasus area: 1, 12, Upper Kuban, 2, Malaja Kabarda, Kuban, 3, 5-6, Talysh, 4, 11, Gjulaplu, western Azerbaijan, 7-10, Redkin Lager, northern Armenia, 13-14, from the Kasbek hoard, Upper Kuban. After Bayern, Chantre, de Morgan and Tallgren. *Cf.* List II

close parallels among European 'Thraco-Cimmerian' bronzes, though there are few related finds between the Caucasus and Rumania.<sup>15</sup>

### Central and Eastern Asia (see List III)

From the Minusinsk area only bells surmounted by an ibex are known; they are apparently pole-tops (fig. 10:9). According to Kiselev their date is the same as that of Scythian bronzes, i.e. seventh to fourth century B.C.<sup>16</sup> A wooden stag standing on a cage comes from the Pazyryk kurgans in the upper Altai, and bronze pole-tops of

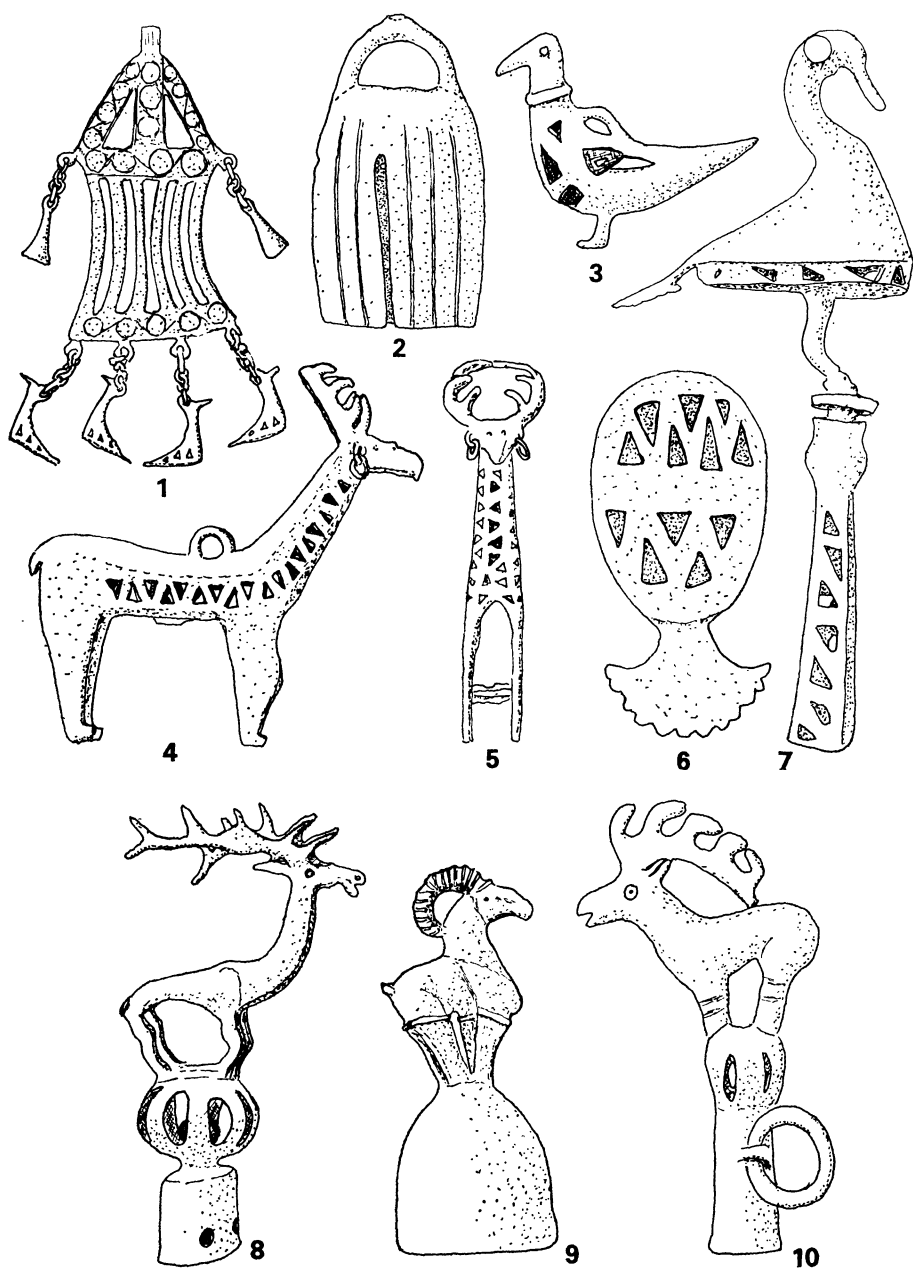


Figure 10. 1-7, from the Caucasus area: 1, Helenedorf, western Azerbaijan, 2, 4-5, Kasbek treasure, Upper Kuban, 3, Chodžala, 6-7, Kvemo-Sasirethi, from a hoard, Azerbaijan. 8 and 10, Ordos bronzes; 9, Bedra near Minusinsk. After Hummel, Nioradze, Rössler, Rostovtseff, Salmony and Tallgren. Cf. Lists II and III

the same type occur, apparently as a Scythian influence, among Ordos bronzes (fig. 10:8, 10). Their late date speaks against a derivation of the bird-cage from China,<sup>17</sup> although the technique of openwork bronze-casting was well known there centuries before.

### The Scythians (see List IV)

The central portion of Scythian pole-tops of the three-dimensional type is in most cases a bird-cage.<sup>18</sup> Generally these are rattles, with pellets inside. They may be globular (sometimes with flattened top and base), asymmetrically biconical or plum-shaped. The openings are always vertical (fig. 11:1, 5 and 8), though not always symmetrical about the horizontal axis, being often broader at the base (fig. 11:3) which is then in many cases concave (fig. 11:2 and 7). Some pole-tops in Rumania have two rows of triangular openings (fig. 12:5). The lower part of the pole-top may form a socket (fig. 11:2, 3 and 8) but is more usually a tang (fig. 11:1, 4, 6-7; fig. 12:5). There is usually a bird or animal surmounting the cage. If birds were perhaps predominant (fig. 11:2-3), various beasts – the griffon, the steer, the dog (possibly) and the stag (fig. 11:5-8) – are nonetheless numerous. The stag was probably the most popular in the peripheral forest areas to the north and north-east, and only stags are found on bird-cages in the upper Altai and among the Ordos bronzes (fig. 10:8 and 10).

Scythian pole-tops may begin in the seventh century and last until the fourth century B.C. Their influence spread not only eastward but to the west; a number have been found in Hungary and Rumania (*cf.* fig. 11:7 and fig. 12:5). Most Scythian pole-tops were hung with bells, including openwork ones (fig. 11:9 and 14). Similar bells have been found far to the north of the actual Scythian area (*cf.* Ananino, fig. 11:15).<sup>19</sup> The pole-tops must have formed part of wagons or of canopies. In a rich grave there are generally four of them.<sup>20</sup>

### ‘Thraco-Cimmerian’ bird-cages in the eastern part of central Europe (see List V)

Openwork bird-cages spread into east-central Europe along with various horse-trappings, in the eighth century B.C. Many of them are well dated by hoard finds to Hallstatt B3 (Rataje, Třtěno, Šarehrad, Vintul de Jos). The later ones belong in Hallstatt C. They are the best-dated group of their kind. The bird-cages, with many other features which show a close relationship with the Caucasus, betoken a nomadic culture and are considered to belong to the Thracians or Cimmerians.<sup>21</sup>

# OPENWORK 'BIRD-CAGE' BRONZES

The wealth of types here is matched only in the Kasbek treasure. The most common shape is a footless pendant (V C); the loop may be simple (fig. 12:3), though most are more complex (fig. 12:1 and 4), sometimes with bird protomes (fig. 12:2 and the second piece from Rataje). All these pendants are rather large, 7-12 cm high, similar to the pole-top from Šarenggrad (V A, fig. 12:6). Other bird-cages, decorated with knobs, form chain-links (V B, fig. 12:8-9). They can themselves

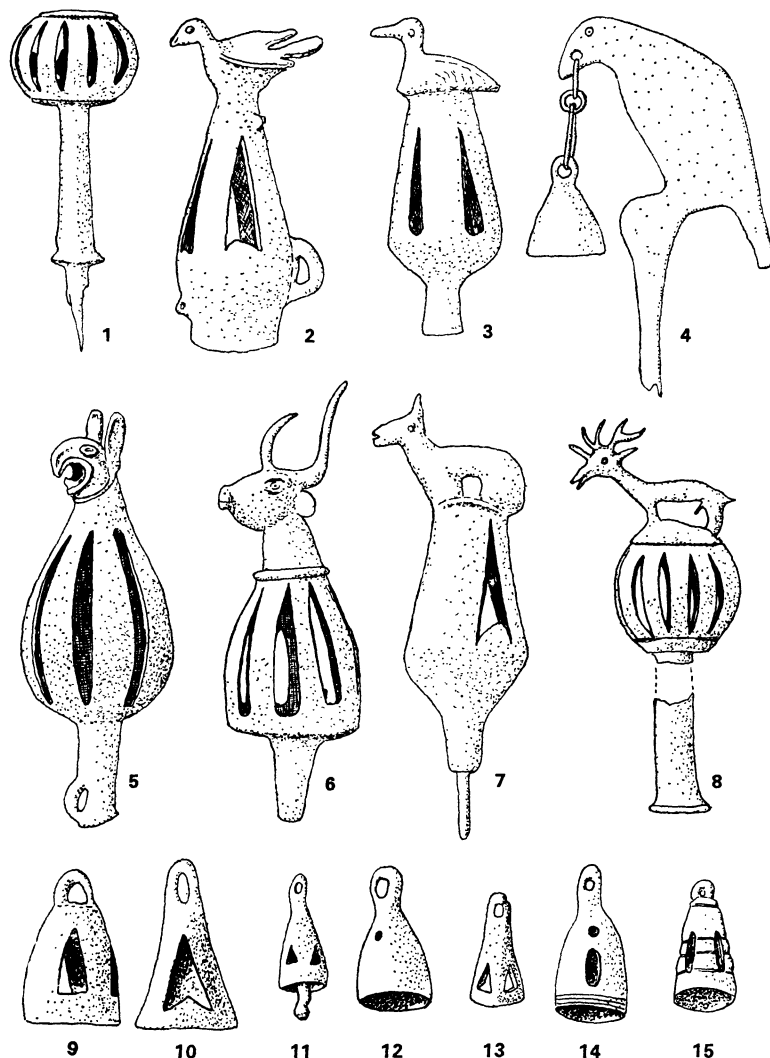


Figure 11. 1-8, Scythian pole-tops: 1, Staraja mogila near Kelermes, 2, Krasnokutsk, 3, Malaja Lopatida, tum. I, 4, Alexandropol, 5, Uljskaja stanica, 7, Győngyes, Hungary; 9-14, Scythian bells: 9, Turja, 10 Jablonovka, 11-12, Čertomlyk, 13 Častyje kurgang, 14 Birjulskoje. Cf. List IV. 15 Ananino (after Aspelin)

serve as the central knob of phalerae (V F, fig. 12:11), or surmount a wheel, with bird pendants (V E, fig. 12:10).<sup>22</sup> 'Cimmerian' bird-cages are not personal ornaments, but horse-trappings. Technically they are more accomplished than the Luri-stan bronzes.

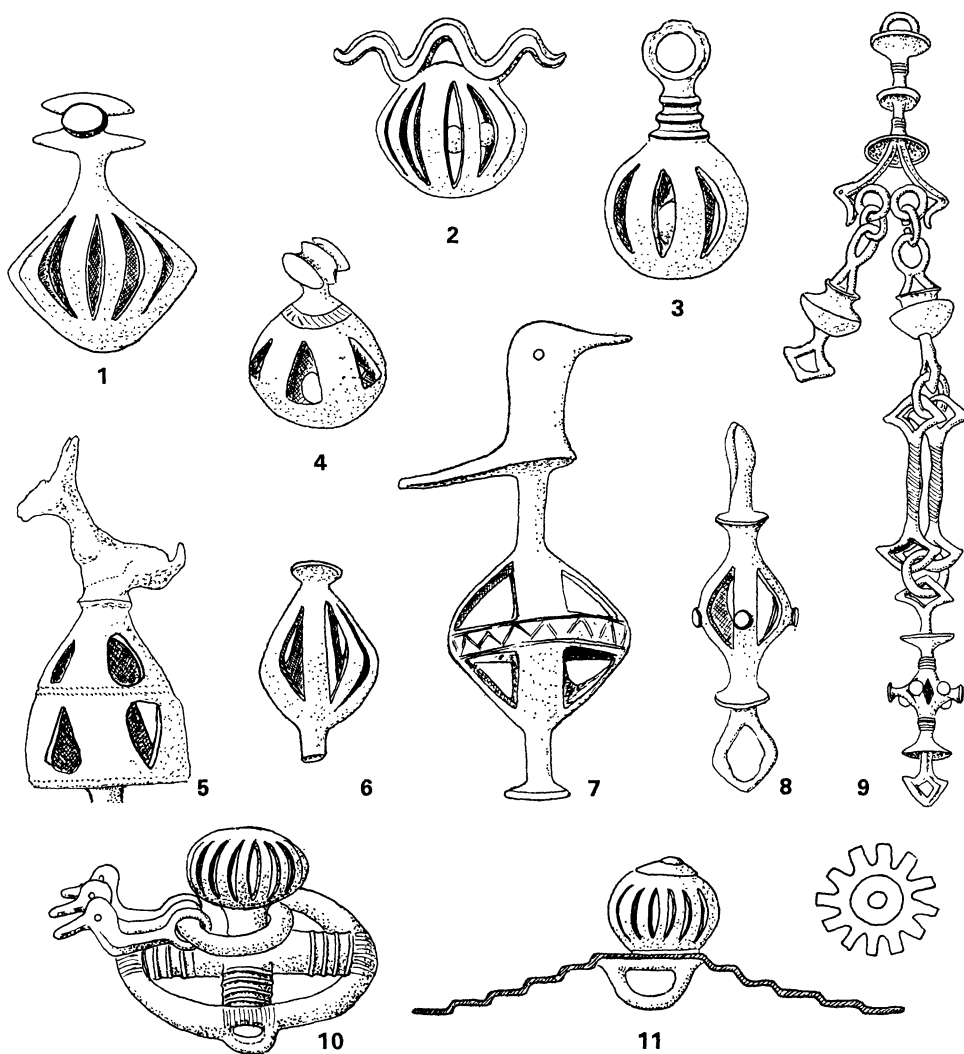


Figure 12. 1-4, 6-11, 'Thraco-Cimmerian' cages in east-central Europe: 1, Ugra, Hungary, 2, Třtěno, Bohemia, 3, Rataje nad Sázavou, Bohemia, 4, Ghighen-Revsco, Bulgaria, 6, Šarenggrad, Croatia, 7, 'from Hungary', 8, Lower Austria (?), 9, Vintul de Jos, Rumania, 10, Battina (Kisköszeg), eastern Yugoslavia, 11, Holihady, Ukraine. 5, Mai Sus (Gernyeszeg), Transylvania, Scythian pole-top. After Gallus-Horváth, Hampel, Hoffler, Popa-Berciu, Richlý, Severeanu, Šolle, Vinski and Żurowski. Cf. List V (and IV)

Perhaps surprisingly, the bird-cage did not become popular in the eastern zone of Hallstatt culture, but in Macedonia, Greece, the west Balkans, Italy and Switzerland. In these countries its adoption coincides with the arrival of a 'Cimmerian' prototype, *c.* 750 B.C., and this derivation is supported by its general relationship to bird symbolism and by specific knobbed variants (*cf.* fig. 12:8–9 and fig. 13:15); possibly, too, by a bird on a cage from Hungary (fig. 12:7) which is neither Scythian nor Macedonian, though closely related to Macedonian (fig. 13:5 and 7) bronzes. The prompt adoption of the eastern bird-cage form and its popularity among European cultures may well be explicable if its significance were analogous to the ancient European wheel or sun-disc and bird symbolism, which could then easily assimilate it.<sup>23</sup>

### Macedonia and Greece (see List VI)

'Thraco-Cimmerian' bird-cages probably inspired those in Greece and in Macedonia (where other bronzes may similarly be derived from 'Cimmerian').<sup>24</sup> The biconical form however, with a central horizontal bar dividing the spaces into two symmetrical triangles,<sup>25</sup> has few parallels outside these regions. The shape is known among Mycenaean beads of gold and faience.<sup>26</sup> The time-gap is considerable; but it would not be the first case of Late Geometric art finding its inspiration among Mycenaean objects and tradition.

The body of the Greek and Macedonian bird-cage is biconical, or more rounded. The loop is relatively short (fig. 13:1, 6 and 14), sometimes a simple hole through a rod (VI, 21, or fig. 13:13, a horned rod), or in a bird (fig. 13:2, 7–8). The triangular loop from Kumanovo, with parallels from Iljak (fig. 13:10 and fig. 14:7) is exceptional. Simple vertical openings (fig. 13:9–10, 13) are less common than the divided-triangular ones. Most of the bird-cages are surmounted by a bird. These include central Greek (fig. 13:7), Laconian, Thessalian (fig. 13:5), primitive Macedonian (fig. 13:8 and 11) and West Greek (fig. 13:2) types. The animals on the cages from Ithaca, Olympia (fig. 13:3–4) and Pherae look more like dogs than horses; the only certain horse is on a solid pendant from Olympia.<sup>27</sup> The stag on two connected cages from Philia (fig. 13:12) is unique. Some animals on Macedonian cages are too primitive and crude for exact identification. Cages with knobs, like fig. 13:15, are rare and known only from Macedonia.

The foot is usually short or absent, though at times it is longer; one cage with a pin-like foot is known from Olympia (VI, 33). Some northern influences may be traced in Cephallenia and in Ithaca (fig. 13:9, *cf.* fig. 14:2–3) whence another pendant in Orientalizing style (VI, 18) is reminiscent of Italian examples. One pendant

from Olympia (VI, 32) is best paralleled at Glasinac (fig. 14:1). Some loopless 'pomegranate' cages from Delphi (VI, 13-15) were probably pole-tops, like one with two birds from Philia (fig. 13:5).

Some openwork bells from Samos and Pherae seem to be related more directly to Caucasian bells than to the rest of the Greek ones,<sup>28</sup> but there need not be any direct connection. The Greek bird-cages are generally found as offerings in sanctu-

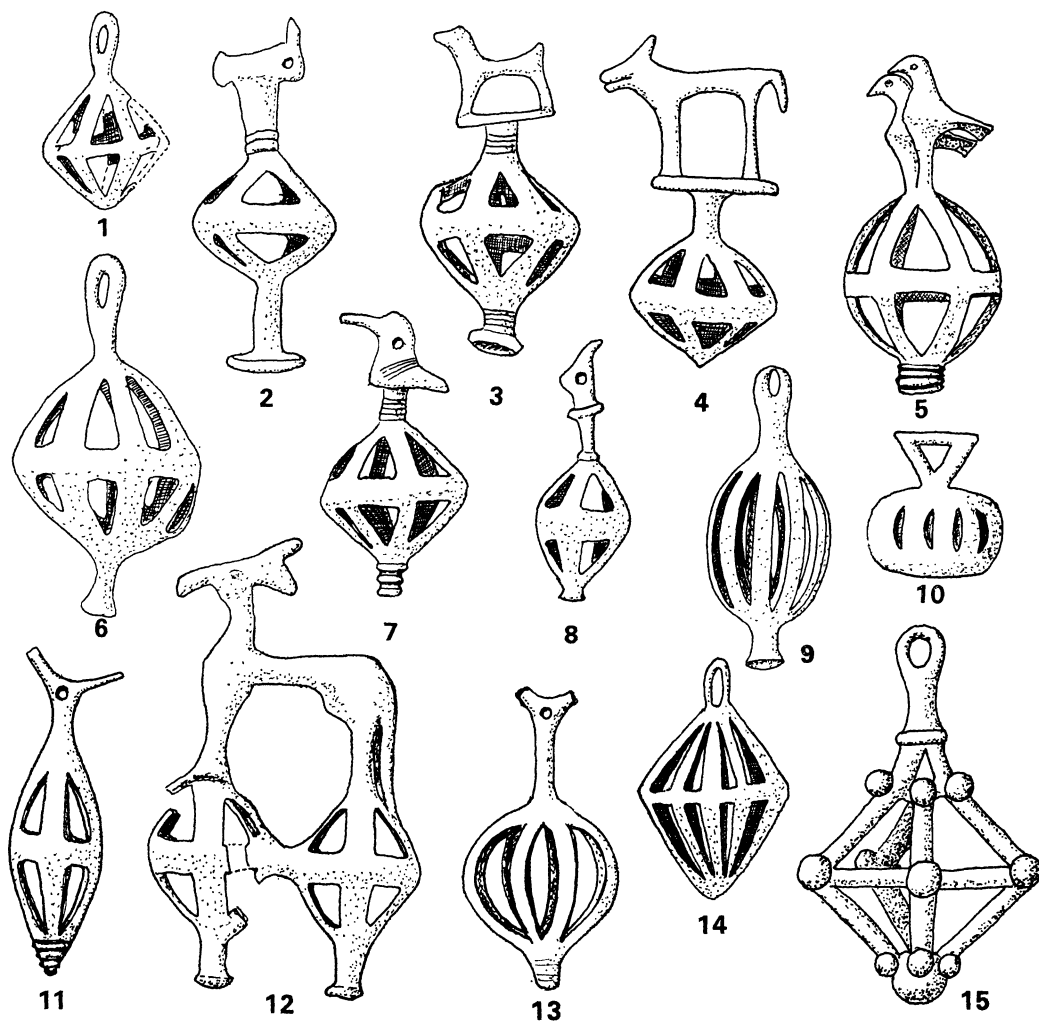


Figure 13. Macedonia and Greece: 1, Lindos, Rhodes, 2-3, Olympia, 4, Aetos, Ithaca, 5, 12, Philia, 6, Radanja, 7, Athens, 8, Chalcidice, 9, Chortata, Leukas, 10, Kumanovo near Skoplje, 11, 13, Macedonia, 14, Gradišće near Skoplje, 15, Golozinci. After Amandry, Blinkenberg, Furtwängler, Lahtov, Makridos, Montelius, de Ridder, Robertson, Theocharis and Venedikov. Cf. List VI

aries. They are pendants, but to judge from their size they are not personal ornaments. Practically never dated exactly, they probably belong in the second half of the eighth and in the seventh century B.C.<sup>29</sup>

### Western Balkans (see List VII)

Most of the bird-cages from the west Balkans form part of pendants with multiple chains. The best preserved example comes from the Mati valley in Albania (VIIA, 11). 3–8cm. long, they are personal ornaments, albeit barbaric in taste. The commonest type is shown in fig. 14:2–3 and 11 (VII A); footless plum-shaped pendants (VII B fig. 14:4–5 and 10) are less numerous. The pin-like pendant in fig. 14:12 (VII F, and fig. 16:6) is known from the coastal part of Croatia and from Picenum, and paralleled in Olympia (VI, 33). The unique pendant in fig. 14:1 from the Glasinac zone also finds its closest analogue at that site (VI, 32). Other variants are rare types. The Iljak pendants with triangular loop (fig. 14:7) resemble the Kumanovo find (fig. 13:10), and a late bronze from Ripač (fig. 14:8) recalls Macedonian bird-cages.

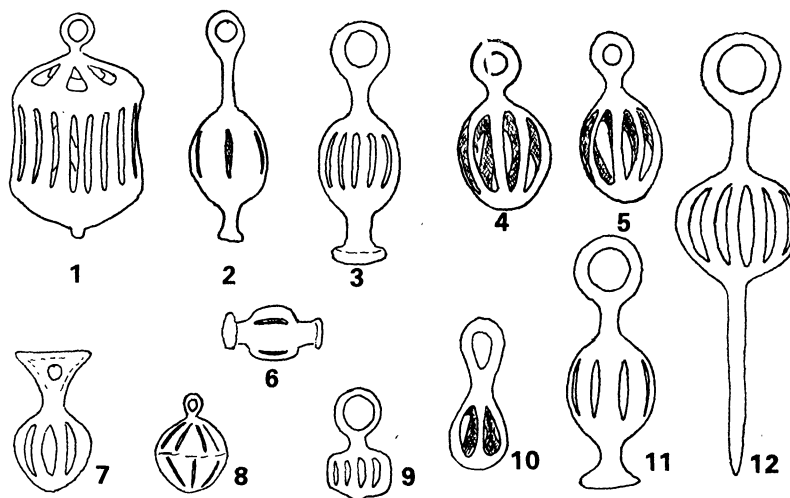


Figure 14. 1–7 Glasinac area: 1, Crvena Lokva, 2, Podlaze, 3, Rusanovići, 4–5, Osovo, 6, Arareva gromila, 7, Iljak; 8, Ripač, 9, Jezerine, 10, Donja Dolina, 11, Prozor, 12, Pečina. After Benac, Čović, Ljubić and WMBH. Cf. List VII

On related beads (VII E, fig. 14:6) the slits of the cage do not run the length of the body. A similar form, with opposed loops, was used as a chain-link (VII D). The main west Balkan types of bird-cage should begin before 700 B.C. and remained in fashion into the fifth century.<sup>30</sup> Their distribution is centred in Bosnia, west Serbia,



Montenegro and Albania, with some reaching south-west Rumania, Croatia and Carinthia. The pin-like forms are found in western Croatia and Picenum.

### Switzerland and eastern France (see List VIII)

The popularity of openwork bird-cages north of the western Alps and in the French Jura is, when compared with their rarity in Austria and almost complete absence in Germany, a little puzzling. The fashion probably spread there from the Golasecca culture of north Italy. However, whereas the Italian pendants soon developed into fine ornaments, the Swiss and French ones preserved their barbaric character. Only the shortness of the foot distinguishes them from the length of Balkan finds.

Swiss examples have been exhaustively studied by Drack,<sup>31</sup> who distinguishes thirteen types. They are mostly globular pendants with a short foot and quite a short loop (fig. 15:1-2 and 4-5; types A 2aIV and B 2aIV of our fig. 7). The body

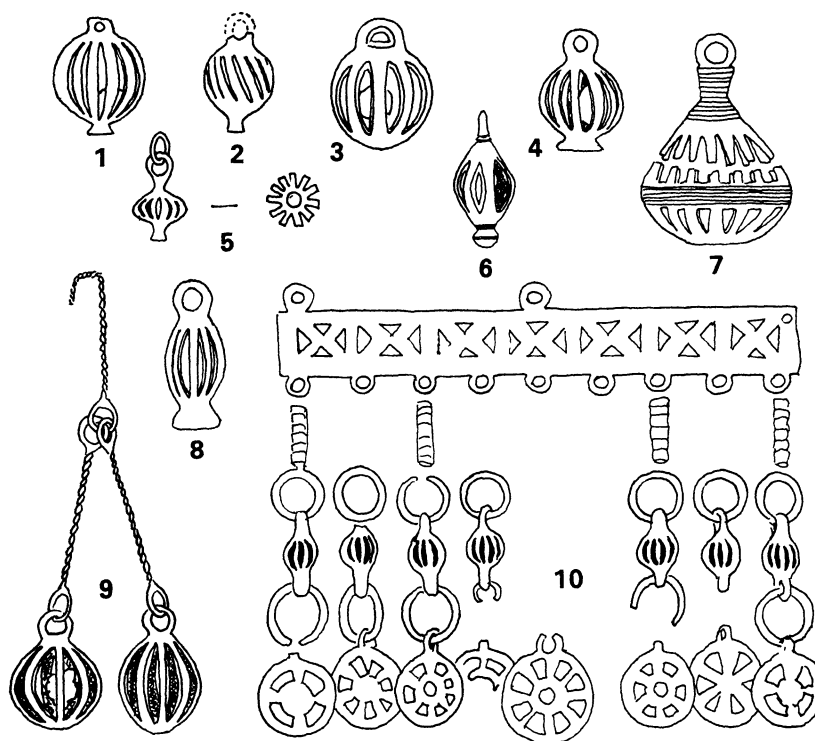


Figure 15. Switzerland and eastern France: 1-2, 4-5, Subingen, 3, Bex, 6, Obergösgen, 7, Mörigen, 9, Wetzikon; 8, Poitiers, 10, Les Moydons-Papillard près Chilly. After Drack, Joffroy and Chantre. Cf. List VIII

may be depressed or at times oval (like fig. 15:8 from eastern France). Drack's Bex type has no foot (fig. 15:3; A 2aI), and the Wetzikon type is practically of wire (fig. 15:9; B 2a9I). The fine Obergösgen type (fig. 15:6) is perhaps already La Tène in date. The fine example from Mörigen (fig. 15:7) is the only find with a central horizontal bar. Cages also form part of chain pendants, not only as terminals, but also as intermediate links (fig. 15:9 and 10). Very few French or Swiss examples are datable, but these all fall in Hallstatt DI.

### Italy (see List IX)

Pendants from Bologna dating from the eighth to seventh century B.C. form an early group. They are generally larger than other Italian examples (fig. 16:1-3), with two rows of often rather irregular openings, reminiscent of Greek and Macedonian forms. Other Italian bird-cages are comparable with Swiss or Croatian examples

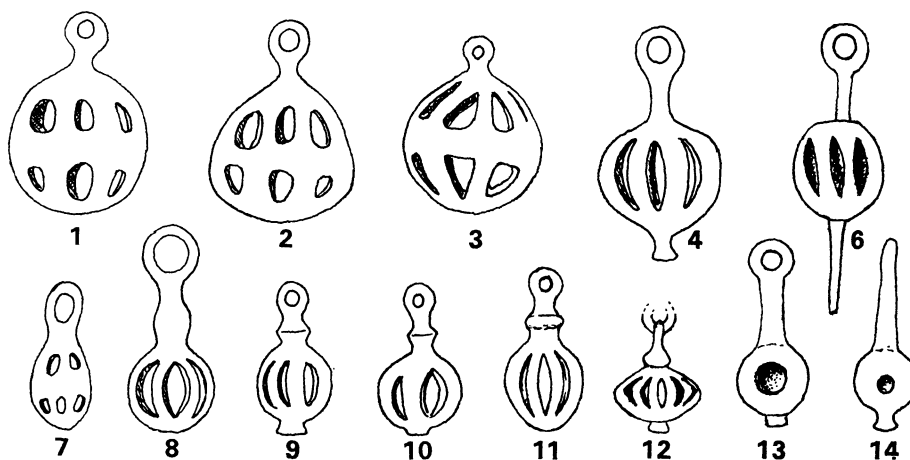


Figure 16. Italy: 1-3, Bologna, 4, 8, Falerii, 6, 11, Novilara, 7, Santa Lucia, 9, Siracuse, 10, 12, Ameno, 13, Cà Morta. After Montelius, Müller-Karpe and others. Cf. List IX

(fig. 16:4, 6). The majority of finds, however, are smaller, finer and more decorative. The foot is either short or absent, and there is a moulding between the loop and body (fig. 16:8-12). These cages were popular in north Italy, especially in the area of the Golasecca culture. Only a few have been found in Etruria and Picenum, and the most southerly find is from Syracuse. A date in the second stage of the Golasecca culture – late seventh to sixth century B.C. – may hold equally for these outlying examples. A final and already degenerate stage is marked by pendants with one round

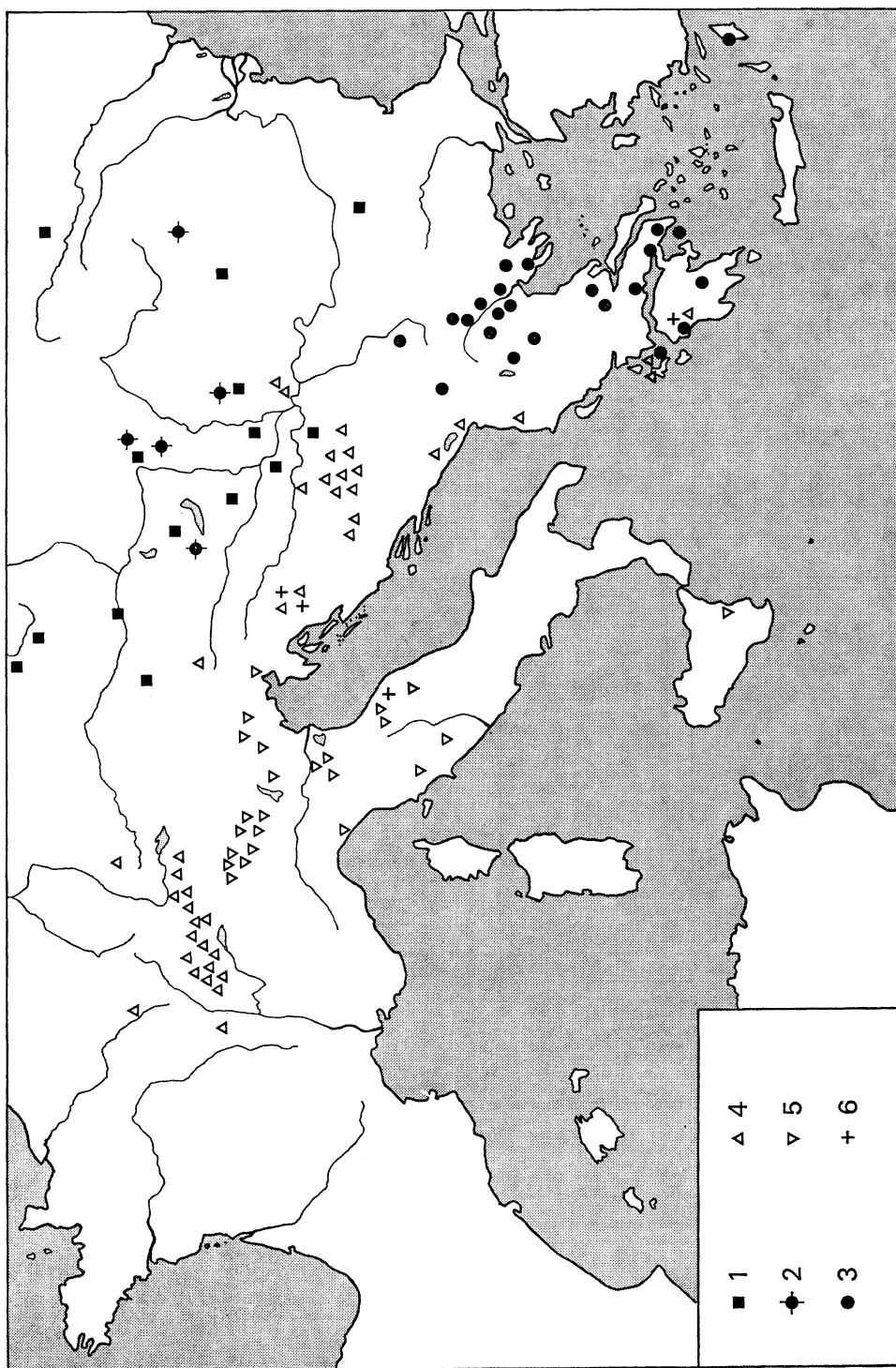


Figure 17. Bird-cage bronzes in Europe. 1, 'Thraco-Cimmerian' (List V), 2, Scythian pole-tops (List IV), 3, Macedonian and Greek (List VI), 4, Western Balkans, Switzerland, eastern France and southern Germany (Lists VII and VIII), 5, Italian (List IX), 6, Pin-like pendants (List VII F and Olympia)



Figure 18. Generalized distribution of bird-cage bronzes in Europe and Asia (stippled area). 1, Hallstatt and Italian areas, 2, Greece and Macedonia, 3, Scythians (with peripheral Scythian area outlined), 4, Kuban culture (later Scythian), 5, Transcaucasia (with Urartu outlined), 6, Luristan, 7, Altai (Maemir culture), 8, Minusinsk area (Tagar culture), 9, area of the Tomb Stones culture (and Ordos bronze finds), 10, Ordos. Full circles: 'Cimmerian' cages in the eastern part of central Europe; cross: pole-top from Cappadocia. Partly after Kiselev

hole or pit in the centre (fig. 16:13-14); another development is seen in the fine openwork bronzes from Vetulonia. Both these are in part chronologically later, at the time of the transition Golasecca II-III, c. 500 B.C.

## Summary

Openwork bird-cages probably originated in the Caucasus, in the tenth or possibly the eleventh century B.C. The Luristan cages, which more closely resemble the European, may be later in date, perhaps from the eighth century onwards (though possibly earlier). In eastern Europe openwork bird-cages appear as horse-trappings among the so-called Thraco-Cimmerian bronzes in the eighth century (Hallstatt B3), probably arriving through the Pontic area. No examples are actually known from the Pontic area, but later, from the end of the seventh century onwards, openwork cages regularly formed the central section of Scythian pole-tops, which are found from the Kuban to the Caucasus, with outliers in central Asia (upper Altai) and north China (Ordos bronzes) and as stray finds westward into Hungary (figs. 17 and 18).

The Macedonian and Greek bird-cages were apparently inspired by the 'Thraco-Cimmerian' (as were other Macedonian bronzes), though the Greek form also incorporates local tradition. Some bells from Samos and Pherae may perhaps be compared directly with Caucasian ones, though there are no finds to support a connection through Anatolia.<sup>32</sup> The Greek and Macedonian bird-cages belong in the second half of the eighth and in the seventh century B.C.

Whereas the rather large bronzes from these last regions, which are often surmounted by a bird or animal, seem symbolic, the smaller bird-cages from other European territories, though still in the Balkans and western Alps barbaric in taste, were personal ornaments, often portions of complicated chain pendants. They spread at the end of the eighth and in the seventh century, and went finally out of fashion in the fifth. Their rapid dissemination may well have been facilitated by the presence of related symbolic objects, such as sun-wheels and bird protomes, in prehistoric Europe and in Geometric Greece. The bird-cage itself may have had a similar significance.

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## Notes

- 1 T. D. Arne, 'Klappern und Schellen aus Luristan', *Serta Hoffilleriana* (Zagreb, 1940), 73-5.
- 2 R. Ghirshman, *Iran* (1961), 73ff., 108.

- 3 E. Porada, 'Nomads and Luristan bronzes', in M. J. Mellink, ed., *Dark Ages and Nomads c.1000 B.C.* (Istanbul, 1964: Nederlands Hist.-Arch. Instit.), 9-31.
- 4 Survey W. Nagel, *Altorientalisches Kunsthandwerk*, Berlin. Blätt. für Vorgeschichte 5 (1963); cf. C. F. A. Schaeffer, *Stratigraphie comparée de l'Asie occidentale* (Oxford, 1948), 448.
- 5 For the pole-tops see esp. E. Porada, *op. cit.*, 21-8.
- 6 Cf. esp. B. B. Piotrovskii, *Karmir-Blur III* (Erivan, 1955), 43f., fig. 35.
- 7 Piotrovskii, *Iskusstvo Urartu* (Leningrad, 1962), fig. 69 (god Teišeba); cf. the similar pomegranate (?) on a rope, fig. 68 (god Haldi).
- 8 M. N. van Loon, *Urartian Art* (Istanbul, 1966), 114 (bell with the name of Argišti I, c. 786-764 B.C.).
- 9 J. de Morgan, *Mission scientifique au Caucase* (Paris, 1889), vol. I, esp. figs. 104-105; *idem*, *Mission scientifique en Perse* (Paris, 1896), T.4 fig. 57; Hančar, *ESA* 9 (1934), fig. 21; Schaeffer, *Stratig. comp.*, fig. 236.
- 10 Cf. e.g. Okropiridze, *Mat.arch.Gruzii i Kavkaza* 4 (1965), 29f.
- 11 Schaeffer, *Stratig. comp.*, 506: dates 1300/1100 probably too high; cf. also B. A. Kuftin, *Arch. Excav. in Trialeti I* (Tiflis, 1941), 169-71; but it must be pre-Iron Age.
- 12 The Kuban culture c. 1000-600 B.C., cf. Tallgren, *ESA* 5 (1930), 177; Krupnov, *SA* 1957/1, 56-82.
- 13 All datings within the first half of the first millennium B.C., but probably not all objects are contemporary (robbed cemetery?). Cf. Tallgren, *ESA* 5 (1940), 181f.; Citanadze, *Mat.arch.Gruzii i Kavkaza* 3 (1963), 58f.
- 14 For the bells in Transcaucasia see esp. Gjulaplu (II 2): Baian, *OAK* (1900), 110f. fig. 227; Uvarova (as II B); M. Kabarda, *OAK* (1892), 87 fig. 52; Ust'-Labinskaja stancia: Anfimov, *MIA* 23 (1951), 199 fig. 18:29; Giljač River: Minaeva, *MIA* 23, 286f., fig. 14:5; Mužiči (former Lugovoje): Krupnov, *KSIMK* 78 (1960), 68 fig. 40:6.
- 15 Cf. Krupnov, *MIA* 68 (1958), 176-95 and note.
- 16 S. I. Kiselev, *Drevnjaja istoria južnoj Sibiri* (2nd ed. 1951), 236ff., 270ff.
- 17 Cf. Arne, *op. cit.* (n. 1), 74.
- 18 Their models were probably Near Eastern pole-tops, cf. Tallgren, *ESA* 5 (1930), 156f.
- 19 J. R. Aspelin, *Antiquités du Nord Finno-Ougrien* (Helsinki, 1877), 112 fig. 457f. Cf. Tallgren, 'L'époque dite d'Ananino' *Ztschr.d.finn.Alt.Gesch.* 31, 1919.
- 20 Survey of interpretations, Šleev, *KSIMK* 34 (1950), 53-61.
- 21 Vinski, *Rad vojp.muz.* 4 (1955), 27-42; Nestor, *WPZ* 21 (1934), 108-30; Holste, *WPZ* 27 (1940), 7-32; Gallus-Horváth, *Le peuple cavalier préscythique* (Budapest, 1939); cf. the bibliography in list V and n. 15.
- 22 For the three bird protomes (pendants) attached to a ring cf. Vinski, *Rad vojp.muz.* 4 (1955), 31-3; Gallus-Horváth, *op. cit.*, pl. 56, 65; Żurowski, *Przegląd arch.* 8/2 (1948), 239, pl. 41f.
- 23 Bouzek, *Eirene* 6 (1967), 133-8.
- 24 Cf. e.g. Gallus-Horváth, *op. cit.*, pl. 72 and 73; V. Lahtov, *Problem trebeniške kulture* (Ohrid, 1965), pl. 21:16, pl. 22:1-4, 9 and Gallus-Horváth, pl. 52:2-4, pl. 45 2-3, 9, fig. 1:1.

- 25 A brief survey Lahtov, *op. cit.*, 57-9.
- 26 Wace, *Archaeologia* 82 (1932), 94.
- 27 A. Furtwängler, *Olympia* IV (1890), pl. 23:415.
- 28 Openwork bells in Samos, H. Möbius in *Marburger Studien* (ed. E. Sprockhoff, 1938), 156-166 (with addenda in his *Studia varia*, Wiesbaden 1967); another from Pherae, National Museum, Athens 16705, *cf.* also Chauchitsa, *BSA* 23 (1918-19) pl. 8:8; H. Payne and others, *Perachora* I (1940) pl. 83, 15, 21; *Argive Heraeum* II pl. 92 no. 1556 etc.
- 29 For the birds *cf.* Bouzek, *Eirene* 6 (1967), 130-3.
- 30 *Cf.* Garašanin, *Starinar* 5/6 (1954/55), 33f.
- 31 *JSGU* 53 (1966/67), 39-45, 57f.
- 32 Some pole-tops from Cappadocia may resemble the Scythian pole-tops with cages, *cf.* M.I. Rostovtsev, *Iranians and Greeks* (1922), pl. II A.

## Lists and bibliography

### List I. LURISTAN (Tepe Sialk, Tepe Giyan)

- T. D. Arne, *Serta Hoffilleriana* (n. 1), 73-5; *cf.* also *Medelhavsmuseet Bull.* 2 (1962), 14, fig. 11 (Stockholm).
- A. Godard, *Les Bronzes de Luristan* (Paris, 1931), pl. 21: 105 and 107.
- L. Legrain, *Luristan Bronzes in the University Museum of Philadelphia* (Philadelphia, 1934), pl. 22:60.
- W. Nagel, *Altorient Kunsthandwerk* (n. 4), pl. 53:113 (Tepe Giyan?), 114.
- H. Potratz, *IPEK* (1941/42), pl. 27:13.
- W. D. van Wijngaarden, *De Loeristanbronzen in het Rijksmuseum van Oudheden* (Leiden, 1954), pl. 10:44-45, pl. 12:73-74.

#### Examples of types:

- I, 1. Pomegranate pendants, A 3/4aIV (fig. 8:3-4, 6): Arne, pl. 5:2; Nagel, pl. 53:114; Wijngaarden, pl. 10:44-5; Godard, pl. 29:107. Tepe Sialk B, tomb 15: R. Ghirshman, *Fouilles de T.S. II* (Paris, 1939), pl. 56 S 833. Variant A 4aIX, with shorter legs, Nagel, pl. 53:113 (from Tepe Giyan?).
- I, 2. Little pendants B 2/3aVI (fig. 8:7-8): Arne, pl. 5:7, 5-6 (comparable with the developed group), 9 (leg IV).
- I, 3. Similar, long 'neck', D 3aVI: Arne, pl. 5:10, 4 (neck of twisted wire, here fig. 8:5).
- I, 4. Little pendants B 1aI (lemon-shaped, legless, fig. 8:9, 11): Godard pl. 29:105 (two attached to a ring); Arne, pl. 5:8.
- I, 5. The developed group (fig. 8:1-2): Arne, pl. 6:12 (ibex head), pl. 6:13 and pl. 5:11 (Janus head).
- I, 6. Middle parts of chains, developed: Arne, pl. 6:14-15 (A 4hA, *cf.* fig. 8:10).
- I, 7. Pins, H 4bVIII (fig. 8:13): Wijngaarden, pl. 12:73-4; *IPEK* 1941/42, pl. 27:13.

## List II. CAUCASUS

A *Transcaucasia*

- II, 1. Small pendants B 1/2 or 6, a or c I (legless, plum-shaped or biconical, openwork simple or complicated; fig. 9:7-10): Redkin Lager: Bayern, Beiheft zur *ZfE* 17 (1885); cf. also *ZfE* 16 (1884), Verh. 130, fig. 16; Schaeffer, *Stratig. comp.* (1948), fig. 298.
- II, 2. Cages of wire (jewels, B 2iI, B 8iI, cf. fig. 9:11): Gjülaplu: Rössler, *ZfE* (1896), Verh. 388-400 pl. 8:14-15; *OAK* (1896), 107, fig. 406.  
Nosiri, Colchis, hoard with many cages of gold wire: Kuftin, *Trilietti* I (1941), 133f., fig. 129-31.  
Parcchanekevi, gold treasure: Kuftin, *op. cit.*, 134f., fig. 132. Cf. also later pendant from Gomi: Kuftin, *Materialy k. arch. Kolchidy* II (Tbilisi, 1950), 50, pl. 10a:14.
- II, 3. Bell-shaped pendants with bottom (A 7cI): Redkin Lager: Bayern, Beiheft zur *ZfE* (1885); cf. Schaeffer, *Stratig. comp.* fig. 298:29.
- II, 4. Birds in open-work technique (fig. 10:1, 3, 6-7): Chodžava: *ZfE* Verh. 1895, 549, fig. (pendant).  
Chodžali: *ZfE* Verh. 1896, 176ff., fig. 11; a, b, c (pendants).  
Elenendorf: *OAK* (1899), 67, fig. 30; (1900), 79, fig. 156 (both pendants); *ESA* 8 (1933), 213, fig. 4 (chain pectoral with little pendants).  
Kalakent: *MAK* VI (1902), 99, pl. 9:16; *ESA* 9 (1934), 52, fig. 7 (pendants).  
Karabulak: *MAK* VI, 155, pl. 9:14 and 18.  
Kedabek: *MAK* VI, 118, pl. 9:17; 124, pl. 9 fig. 15.  
Kvemo-Sasirethi: Nioradze, *ESA* 7 (1932), 91, fig. 11:12-14 and p. 93 (pole-top and pendants?).  
Lčaşen, former Ordaklju: Mcakanjan, *KSLA* 85 (1961), 71, fig. 25:7.  
Redkin Lager: Bayern, *ZfE* (1885), Beiheft; cf. Schaeffer, *Stratig. comp.*, fig. 298:25.

B *The Kuban culture*

- II, 5. Pendants C7 b or c I (fig. 9:1, 12): E. Chantre, *Rech. anthrop. dans le Caucase*, II (1886), pl. 27:1, 9.  
The Kasbek hoard: P. S. Uvarova, *Slg. kaukas. Mus. V-Archäologie* (Tbilisi, 1902), pl. 2-3; Chantre, *op. cit.*, pl. 57-8; Tallgren, *ESA* 5 (1930), 109-82; F. Bayern, *ZfE* (1885), Suppl.; Chantre, pl. 57-8. Head of a sceptre, Tallgren, 123, fig. 15 (here fig. 9:13); middle part of a chain, Uvarova, pl. 2 (here fig. 9:14); knobs on phalerae, Uvarova, pl. 2; Chantre, pl. 58; Tallgren, 144, fig. 62-3.

## List III. CENTRAL AND EASTERN ASIA

A *The Altai area*

Pazyryk, pole-top, stag on bird-cage, wood: S. Rudenko, *Der zweite Kurgan von Pazyryk* (Berlin, 1951), pl. 27:1.

B *The Minusinsk and north-eastern Kazakhstan areas* (ibexes on bells, pole-tops?)

W. Radloff, *Antiquités siberiens* (1888), p. 126.  
Tallgren, *Coll. Torostine*, (Helsingfors, 1917), pl. 9:1 (Bedra) (here fig. 10:9); Kiselev, *Drenvjaja istorija južnoj Sibirii* (1951), 236ff., 250ff., pl. 20:3 and 22:5-6.



C *The Ordos bronzes* (pole-tops with cages and antlers, fig. 10:8, 10)

Cf. e.g. M. I. Rostovtsev, *The Animal Style of South Russia and China* (Princeton, 1929), pl. 21:4; Salmony, *Sino-Siberian Art* (Paris, 1933), pl. 1:12. Many on bells quoted by Rostovtsev.

#### List IV. SCYTHIAN POLE-TOPS

Survey with bibliography.

Šleev, *KSII MK* 34 (1950), 53–61, fig. 1–2; otherwise cf. esp. Minns, *Scythians and Greeks* (1913), 186, fig. 79; Borovka, *Scythian Art* (1928), pl. 24–25, 27; Iljinskaja, *SA* (1965/1), 95, fig. 6, 101, fig. 11, 102, fig. 12; *OK* (1904), fig. 150 (Staršaja mogila, near Kelermes); *OK* (1913–15), 136 fig. 275 on p. 222 (Malaja Lepatida); *Antiquités de la Scythie d'Hérodote* (St Petersburg, 1866), pl. 4 (Alexandropol), pl. 24:5 (Krasnokutsk) and pl. 25:1–2.

Examples of bells in openwork: Liberov, *Pamjatniki skifskogo vremeni na srednem Donu* (Arch. SSSR D 1–31), pl. 21:31; Petrenko, *Pravobrež 'je srednego Pridneprov' ja v 5.–3. vv. do n.e.* (Arch. SSSR D 1–4), pl. 32:32–42; *Antiquités de la Scythie d'Hérodote* vol. II (St Petersburg, 1873), p. 84; *OK* (1913–15), 218f., fig. 273 (Birjulskoje); *OK* (1897), 22, fig. 78 (Andronovskaja stanica tum. 8).

Scythian pole-tops from Hungary and Transylvania.

Old surveys containing old, not localized, finds: Hampel, *Arch. Ért.* 13 (1893), 385–407; Reinecke, *ZfE* 29 (1896), 1–43, cf. esp. 13f. and 25–7.

Localized finds on the map fig. 17.

Aszód, reconstruction, cage?: Párducz, *Folia Arch.* 11 (1959), 37f., 10.

Mai Sus (Gernyeszeg on the Marus), reg. Turgu Mures: *Arch. Ért.* 13 (1893), 462f., fig. 22f.; Párvan, *Getica*, pl. 3. (fig. 12:5).

Gyöngyös, Mátra mountains: Márton, *Arch. Ért.* (1908), 41, pl. 1:10–13, 1–5 bells (fig. 11:7).

Somhid, reg. Arad: Hampel, *Arch. Ért.* (1893), 400, fig. 21.

Matra area: Márton, *Arch. Ért.* (1908), 52, pl. 5.

Near Sümegh: Darnay, *Arch. Ért.* (1901), 369–72, fig.

#### List V. 'THRACIAN-CIMMERIAN' CAGES IN EAST-CENTRAL EUROPE

A. Pole-top: Šarengrad near Ilok, Yugoslavia, hoard, Hallstatt B3: Brunšmid, *Vesnik Zagreb N.S.* 4 (1899/1900), 64, pl. 3:19; Vinski, *Rad vojv. muz.* 4 (1955), 38, fig. 25, with pellets inside. H2aVII (fig. 12:6).

B. Middle section of chains (fig. 12:8–9).

V B, 1 Region of Nógrád, Hungary: Hampel, *Bronzkor* (Budapest 1886) I, pl. 61:3, GH 8aHG.

V B, 2 Vintul de Jos, Alba, Rumania, hoard, Hallstatt B3: Popa-Berciu, *Dacia N.S.* 8 (1964), 97, 92, fig. 4. GH 8aHG (fig. 12:9)

## OPENWORK 'BIRD-CAGE' BRONZES

- V B, 3 Lower Austria (?): Gallus-Horváth, *Peuple cavalier préscythique* (1939), pl. 6:3. BH 8aHB (fig. 12:8)
- V B, 4 Simoševci near Šabac, Serbia, torcs with four chains, each ending with three bird protomes: Gallus-Horváth, *op. cit.*, pl. 50:2; Vinski, *Rad. vojv. muz.* 4 (1955), 32, fig. 14.
- C. Pendants (fig. 12:1-4).
- V C, 1 Ghighen-Revska near Roevo (ancient Nicopolis), Bulgaria, from a tumulus with similar 'Thracian' objects: Severeanu, *Bucureştii* (1936, no. 1-2), 17, fig. 5, (fig. 12:4).
- V C, 2 Pécs, Hungary: Gallus-Horváth, *Peuple cavalier préscythique* (1939), 37, fig. 3. Find Hallstatt C, C 4aV, connected with other objects.
- V C, 3 Rataje nad Sázavou, Bohemia, hoard Hallstatt B3: Šolle, *Památky* 43 (1947/48), 102-4. Two pendants with pellets inside. The small one here fig. 12:3, C 3aI; the bigger one with bird protomes.
- V C, 4 Somlyóvásárhely, Hungary, fragment: Gallus-Horváth, *op. cit.*, 49, pl. 52:7.
- V C, 5 Třtěno (former Křtěno), Bohemia, hoard Hallstatt B3: Richlý, *Bronzezeit in Böhmen* (Vienna, 1894), pl. 12:24, with bird protomes and pellets inside. A 3aI (fig. 12:2).
- V C, 6 Ugra, Hungary, hoard Hallstatt B3?: Gallus-Horváth, *op. cit.*, pl. 48:8, unique loop resembling no. 1, 2aI (fig. 12:1).
- V C, 7 Hallstatt, Austria, grave 196, no. 12: Kromer, *Das Gräberfeld von H.* (1958), pl. 22 (=v. Sacken, *Das Grabfeld von H.* (1868), p. 56 pl. 13:3). Horse-bit with big plum-shaped pendant and stone inside. B 6aI. The shape is that of western Balkan pendants, but from its size and apparent function (decorative horse-trapping) it falls better here.
- D. The unique pendant with bird from 'Hungary', *Arch. Ért.* 14 (1894), 386, fig. (here fig. 12:7, bird F 2bV), if not Macedonian, may belong to this group.
- E. Battina (Kis-Köszeg) Vojvodina; Vinski, *Rad. vojv. muz.* 4 (1955), 32, fig. 15. Wheel with a cage and ring with three bird protomes, (fig. 12:10).
- F. Phalerae with bird-cage in the centre (fig. 12:11).
- V F, 1-2 Holihady, western Ukraine, hoard; Żurowski, *Przegląd Archaeologiczny* 8, 2 (1948-49), 237f., pl. 38:3 and pl. 39:3 (here fig. 12:11).
- V F, 3 Vintul de Jos, Alba, Rumania: Popa-Berciu, *Dacia* NS 8 (1964), 89, fig. 1.

## List VI. GREECE AND MACEDONIA

- VI 1 Aegina, little pendant C 3aI, Aegina Museum 876.
- VI 2-3 Athens, Acropolis, pendant with Boeotian bird, F 2bII; de Ridder, *Cat. des bronzes de l'Acropolis d'Athènes* (1894), 84, no. 246f., *Eirene* 6 (1967), 122, 128, fig. 5:4. (fig. 13:7).
- VI 4 Bohemitesa, Macedonia, three pendants C 3aI on one ring: Rey, *Albania* 4 (1929), 51, fig. 13:3.

- VI 5–10 Chalcidice: Amandry, *Coll. Statbatos, Bijoux* (Strasbourg, 1953), 241; pl. 26 no. 168 pendant DJ 2bVI, long loop with symmetrical protrusions; 169 pendant CJ 2bIV, asymmetric protrusions (animal?); 170 similar, CJ 2bIV, animal or protrusions (here fig. 13:8); 171 loop broken away, 8aI, with knobs, fig. 36:6 (Lahtov, *Trebenište* (n. 24), pl. 18:10), DJ 3aI; *ibid.* III, pl. 14:36, animal, 3aII.
- VI, 11 Chauchitsa: Gardner-Casson, *BSA* 23 (1918/19), 37, pl. VII B 7, B 3aI.
- VI, 12–15 Delphi: Perdrizet, *Fouilles de D. V* no. 105, pl. 15, F 2bV with Boeotian bird. *Ibid.*, nos. 106–8, fig. 142 pole-top?, pomegranate shape, 3aIII.
- VI, 16 Golozinci near Titov Veles: Lahtov, *op. cit.*, 58, pl. 19:3; B 28bVI (here fig. 13:15).
- VI, 17 Gradišće near Skopje: Lahtov, *op. cit.*, 58, pl. 19:1, B 2bI, (here fig. 13:14).
- VI, 18–21 Ithaca, Aetos: Robertson, *BSA* 43 (1948), pl. 49 E 89, CJ 3aIV, orientalizing; *BSA* 43 (1948), pl. 49 E 92, F 2bII, with West Greek bird; *BSA* 48 (1953), pl. 69 E 197, 2bI, with dog(?), *cf.* fig. 13:4; *BSA* 48 (1953), pl. 69 E 239, E4aIV, similar to Glasinac type.
- VI, 22–24 Kozani: Kalipolitou-Feytmans, *AE* (1948/49), 102, fig. 16:11–12, C 2bIV and C2bV; *AD* 17 (1961/62) Chr. 216 pl. 256; *BCH* 85 (1961), 786 fig. 8–9 man sitting on V 4aV.
- VI, 25 Kumanovo near Skoplje: Vulić, *Spomenik Srbski Akademii Nauk* 98 (1941–48), 271, fig. I. G 5 depressed aI (here fig. 13:10).
- VI, 26 Leukas, Chortata: Montelius, *La Grèce préclassique* (1928), 183, fig. 658; Dörpfeld, *Ithaka*, pl. 79:6. D 4aV, near to the Glasinac type (fig. 13:9.)
- VI, 27 Lindos, Rhodes: Blinkenberg, *Lindos I*, 102f., pl. 11:219. B 2bI, *cf.* fig. 13:1.
- VI, 28–31 Macedonia, Benaki Museum: *AE* 1937/II, 518f., pl. I: v B 2bII, with jug-like ear; λ F 1bVI, with primitive bird, *cf.* fig. 13:11; ξ F 2bII, with simple bird like VD and Pherae; μ J 3aII, *cf.* fig. 13:13.
- VI, 32–36 Olympia: Furtwängler, *Olympia*. IV (1890) pl. 23:410, GJ 5cII (*Eirene* 6 (1967) fig. 8:3), very close analogy from Glasinac; *cf.* here fig. 14:1; 411 pin-like, twisted wire, D 3bIII; 413 2bIV with dog or horse; 414 (*Eirene* 6 fig. 8:2) F 2bV with West Greek bird; 417 (*Eirene* 6 fig. 2:15) F 3bV Corinthian (?) bird, double globe.
- VI, 37–38 Olynthus: Robinson, *Olynthus X* (1941), no. 405 (B 3aI) and 406 (B 8a) with knobs.
- VI, 39 Vergina: Andronikos, *Vergina I* (1969), pl. 126a. Bird on 2bIV.
- VI, 40 Pateli: Makridos, *AE* 1937/II, 518ff., pl. 6 (β) (Rey, *Albania* 4 (1932), 59 fig. 11), F 1bV, with primitive bird (head broken away).
- VI, 41 Perachora: Payne etc., *Perachora I* (1940), pl. 83:14, B 3bI.
- VI, 42 Pherae: Béquignon, *Phères* 68, pl. 20:5, F 2bIV with dog (?).  
Four other similar, but with birds, in Nat. Mus. Athens.
- VI, 43–5 Philia, Thessaly: Theocharis, *AD* 19 (1964) Chr. 247 pl. 291, two birds sitting on 3bII (pole-top?), *cf.* fig. 13:5; *AD* 20 (1965), Chr. 312f. pl. 368, stag on two connected 2bIV, *cf.* fig. 13:12; *AD* 20 (1965), Chr. 312f. pl. 366, bird on 2bII.
- VI, 46 Potidaea: *BMQ* 6 (1931), 82 pl. 33, primitive bird on 3aV.
- VI, 47 Radanja: Venedikov, *Raskopki i proučivanja I* (1948), 94, fig. 64. B 2bIV, *cf.* fig. 13:8.
- VI, 48 Rečica, Yug. Macedonia: Lahtov, *Treb. kult.* (n. 14), 58 pl. 19:4.

## OPENWORK 'BIRD-CAGE' BRONZES

- VI, 49 Samos, two cages, one a bird on a three-storied pendant. V. L. Gehrig, *Die geometrischen Bronzen aus Samos* (dissertation, Hamburg, 1964).  
 VI, 50 Tegea: Dugas, *BCH* 45 (1921), 351, fig. 6:36, Laconian bird on B 1aII.

### *Classification*

Simple pendants B 3aI and C 3aI: nos. 1, 4, 11, 37.  
 Simple pendants B 2bI: nos. 17, 27, 47.  
 Cage 2b or 3b: nos. 2-3, 5-7, 12, 19-20, 22-3, 28-30, 33-6, 40-5.  
 Cage 3a: nos. 10, 13-15, 18, 25, 31, 46, 50.  
 Northern relations: Glasinac type 2I, 27, other 32.  
 Birds: nos. 2, 12, 19, 30, 35-36, 40, 49; primitive birds 29, 46.  
 Dog (?): nos. 20, 34, 42, uncertain animals nos. 6, 7, 10, 24.  
 Man: no. 24, cf. also Richter, *Handbook to Greek Colls: Metrop. Mus. of Art* (N.Y., 1953), 22f., 173, fig. 13c; *Ars Antiqua* Luzern, Aukt. II (1960), pl. 37, no. 80.

### *Macedonian types north of Macedonia:*

- VI, 51 Konopnica near Leskovac: Garašanin, *Preistorija Leskovačkog kraja*, 50 pl. 11:2-3.  
 VI, 52-53 Široko near Prizren: Galović, *Glasnik Kosovo i Metohije* I, *Priština* (1956), 209, pl. 1:2 (Dašić, *Glasnik, Priština* 2, 253, pl. 8:7), B 2bIV; Tum. II, Slavkovic-Durdić, *Glasnik Priština* 9 (1964), 551, pl. 2:4, D 3aI. Cf. also VD and VII below.

## List VII. THE WESTERN BALKANS

*Glasinac* A, B 4aV, or D 3aIV (fig. 14:2-3, 11):

- VII A, 1-4 Glasinac area, examples: Arareva gromila: *WMBH* I (1983), 99, fig. 168; Podlaze, *WMBH* I (1893), 100, fig. 169; Rusanovići tum. 12: *WMBH* 5 (1897), 5, fig. 3; Gosinja planina tum. 37, grave 3: Benac-Čović, *Glasinac* I (Sarajevo, 1956), pl. 23:7-8.  
 VII A, 5 Balta-Verde, Mehenditi, Rumania: Berciu, *ESA* 9 (1934), 169, fig. 4 i (*Mat. Cerc. Arb.* 2 (1956), 324, fig. 53:2).  
 VII A, 6 Donja Dolina, greda I. Stipančević, grave 14: Truhelka, *WMBH* 9 (1904), 131, pl. 76: 5-12.  
 VII A, 7 Gotouš near Plevlje, tum. II: Čović, *Članci i grada ist. Bosne* 7, (Tuzla 1967), 35-7, pl. 3:21.  
 VII A, 8 Kopolje, grave 25: Zagreb Museum (noted by W. Kimmig).  
 VII A, 9 Lika near Gospić: Zagreb Museum (noted by W. Kimmig).  
 VII A, 10 Maladži, near Scutari lake, Albania: Nopcsa, *WMBH* 12 (1912), 175f, fig. 14.  
 VII A, 11 Mati valley, Albania: Islami-Ceka, *Studia Albanica* 1 (1964), pl. 15:1. Complete pectorial with four long chains and eight pendants.  
 VII A, 12 Potočani near Livno: *Glasnik Sarajevo* 49 (1937), 5f., pl. 1:9-10.  
 VII A, 13 Prozor: Ljubić, *Popis Ark. Odjela narodnog mus. u Z.* (Zagreb, 1881), 133, pl. 22:127.  
 VII A, 14 Ražana near Gosjević, western Serbia: Garašanin, *Arch. Jug.* 2 (1956), 14, fig. 12.

*Glasinac B*

Similar, but legless pendants, B 4aI or B 6aI, (fig. 14:4-5, 10).

VII B, 1-2 Glasinac examples: Sokolac near Lokva: *WMBH* 1 (1893), 99, fig. 165-66; Osovo tum. I grave 3: Benac-Čović, *Glasinac* I, pl. 23:7-8.

VII B, 3-5 Donja Dolina, Greda M. Petrović, inhumation X; *Inv. Arch. T* 21; Greda M. Šokić, grave I: *WMBH* 9 (1904), 110-12, pl. 58; Greda I. Stipančević, grave 14, *cf.* VII A, 6.

VII B, 6 Treffelsdorf near Ottmanach, Austria: Klagenfurt Museum, with Hallstatt B3 celts, (noted by W. Kimmig).

VII B, 7 Gruia, Rumania: Părvan, *Dacia* 1 (1924), 39, fig. 8, with pellet inside; 6-7 perhaps 'Thracian'.

*Glasinac C*

Other pendants of the Bosnian area (fig. 14:1, 7-9):

VII C, 1 Iljak, tum. III grave 2: Benac-Cović, *Glasinac* II pl. 13:1-7; *WMBH* 3 (1895), 9f., fig. 17, G 3aI (fig. 14:7).

VII C, 2 Crvena Lokva: *WMBH* 1 (1893), 100, fig. 170, B 5cII, *cf.* Olympia (VI, 32).

VII C, 3 Jezerine, crem, 213: *WMBH* 3 (1895), 111, fig. 250, B 5aI depressed (fig. 14:9).

VII C, 4 Ripač near Bihać: *WMBH* 5 (1897), 43, pl. 20.60. Small late piece close to the Macedonian B 2bI (fig. 14:8).

*Glasinac D*

Middle section of chain, C 3aG: Arareva gromila, *WMBH* 1 (1893), fig. 198.

*Glasinac E*

Beads IV4aIV, fig. 14:6. Examples:

VII E, 1 Glasinac, Arareva gromila, *WMBH* 1 (1893), fig. 198.

VII E, 2 Donja Dolina, greda N. Šokić, grave I, *cf.* VII B, 4.

VII E, 3 Kuša, Montenegro, *WMBH* 12 (1912), 173, fig. 6 p.

*Glasinac F*

Pin-like pendants from Croatia and eastern central Italy, D 4aIII, (fig. 14:12 and 16:6).

VII F, 1 Pečina, Croatia, hoard Hallstatt B3: Ljubić, *Popis*, (VII A, 13), 71, pl. 10:34; Holste, *Hortfunde Südosteuropas* (1951), pl. 10:2.

VII F, 2 Prozor, Croatia: Ljubić, *op. cit.*, pl. 17:23.

VII F, 3 Novilara, Marche: Montelius, *Civ. prim. en Italie* (1895), pl. 148:9.

## List VIII. SWITZERLAND AND EASTERN FRANCE

A For northern Switzerland see W. Drack, *JSGU* 53 (1966/67), 39-45, 57f. pl. 15. 13 types from 16 places, most of them A 3aIV or B 3aIV (fig. 15:1-2, 4-5). Some are legless (type Bex, A 3aI, fig. 15:3; type Wetzikon, B 3gI, fig. 15:9); type Langenthal consists of globe only (3aI); type Obergösgen, Adde Méringue, Chantre, *Causasus* II (cit. II B), 78, fig. 87, C 26bI (here fig. 15:7).

## OPENWORK 'BIRD-CAGE' BRONZES

For Tessin see Joffroy, *Oppidum de Vix* (below) 51f. (Arbedo Molinazzo, Arbedo Cernasca, Castione—comparable to Italian cages).

B Eastern France: R. Joffroy, *L'oppidum de Vix* (Paris, 1960) 51f. (pl. 10:24–7) mentions seven finds mostly from Jura and Doubs, but including Camp de Chasse and Vix, cf. also J. P. Millote, *Le Jura et les plaines de Saône aux âges de métaux* (1958), pl. 58:5 (Chilly). Most of them B 3aIV, the body sometimes more oval (B 4aIV, fig. 15:8). Les Moydons near Chilly and Cadamène middle sections of chains (B 3aB, fig. 15:10).

C *Württemberg*: Ifingen-Trachtelfingen, tum. 27; Brit. Mus. (noted by S. Schiek, H 3aVII).

## List IX. ITALY

A The Bologna type of pendants, B 3cI or B 6cI (fig. 16:1–3):

Bologna, Savena graves 296 and 94: Müller-Karpe, *Beiträge zur Chronologie der Urnenfelderzeit* (1959), pl. 78 C and 79 C; many other from Bologna cemeteries in Bologna.

B The 'classical' Italian type, loop C, body 3 or similar, no leg or VI or IV (fig. 16:8–12):

IX B, 1 Ameno (Orta), grave F 77: Decio, *Bull. paletnol. ital.* 55 (1935), 140f., pl. 6:6.

IX B, 2 Cà Morta (Rebbio): (a) Giusani, *Riv. Arch. Como* 102–4 (1931), 17–22, with the list of earlier finds from Como published in this periodical. (b) *Como preromano e le sue necropoli*, Catalogue (1962), pl. 30 and 29. (c) F. Rittatore Vonwiller, *La necropoli preromana della Cà Morta, Scavi* (1955–65), grave 24, 129f., pl. 65 (Golasecca II) and grave 122, 147f. pl. 72 (Golasecca II–III, type IX C).

IX B, 3 Chiavari, Liguria: Lamboglia, *Riv. Stud. Liguri* 26 (1960), 162, fig. 71, 163, fig. 72, cf. 203f. (graves 18, 19); *Studi genuensi* 3 (1960/61), 31, fig. 31, grave 5a (Chiavari and Cà Morta c sometimes cages with holes cut through the bottom).

IX B, 4 Cologna Veneta: *Not. Scav.* (1896), 510, fig. 5.

IX B, 5 Falerii: Montelius, *Civ. prim. It.* (1895), pl. 329:5, simple loop B.

IX B, 6 Golasecca: *Bull. paletnol. ital.* (1876), pl. 2, fig. 5; other *Not. Scav.* (1897), 234, fig. 1 on p. 244.

IX B, 7 Novilara: Montelius, *Civ. prim. It.* pl. 148:9; *Mon. Ant.* V pl. 8:16; Dumitrescu, *L'età del ferro nel Piceno*, (Bucharest, 1929), 144, fig. 19:4.

IX B, 8 Santa Lucia: Marchesetti, *Scavi nella necropoli di S.L.* (Trieste, 1886 and 1893), pl. 24:31; for other finds from Italy cf. the list p. 283f. Belluno, Mecllo, Vadena, San Marino.

IX B, 9 Syracuse: *Mon. Ant.* 25 (1918), 579, fig. 166.

C Pendants with one circular hole or pit only (fig. 16:13–14), D 3eIV:

IX C, 1–3 Ameno, Golasecca and Cà Morta a and c: see List IX B.

IX C, 4 Vetulonia: Camporeale, *Not. Scav.* (1966), 40f., fig. 31 on p. 43.

IX C, 5 Tolentino, grave IV: *Not. Scav.* (1883), 333f., pl. 16.

D Other Italian cages:

IX D, 1 Novilara, list VII F no. 3 (fig. 16:6).

IX D, 2 Falerii, list IX B no. 5, simple loop.

IX D, 3 Vetulonia, *Not. Scav.* (1885) p. 150 pl. 9:24, tomb 54. B 2cI, very finely decorated.

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Late Bronze and Early Iron in the  
valley of the Ebro

*J. Maluquer de Motes*





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The first important synthesis on the early Iron Age in the Iberian peninsula was published in 1932 by P. Bosch Gimpera. On the basis of earlier work it was possible to group the known material into distinct regions: Catalonia, Aragon, Valencia etc.<sup>1</sup> What predominantly distinguished the new period was its marked 'Urnfield' character; and Urnfield culture, appearing south of the Pyrenees, introduced incineration for the first time into Spain. This novel funerary rite proved an extraordinarily expansive force and succeeded in spreading among all the peoples of the peninsula, from Catalan and Levantine to the most westerly, since it is also recorded in Alpiarça in Portugal. All subsequent cultures – Iberian, Celtiberian, Tartessian etc. – were typically cremators and the rite of inhumation did not reappear until the arrival of exotic Mediterranean elements, with the Phocaeans, Carthaginians and Romans.

Assessment of the culture in Spain as 'Urnfield' reflects its manifest orientation from the start towards continental European cultures, apparently a complete reversal of what prevailed in earlier periods. This was interpreted as proof of invasions from Europe, the result of expansive movements whose south-eastern spearheads reached the line of the Ebro, to infiltrate throughout the peninsula towards the south-east (Almería) and west (Portugal). As proof that the south-west (Huelva) was reached, there were also the assertions of ancient classical sources which mention the presence of Celtic (or, alternatively, European) elements round the Guadalquivir. This non-archaeological evidence has been taken as a chronological indicator, allowing us to say that by the sixth century B.C. this movement was at an end.

The need to relate finds in Spain with material from north of the Pyrenees led to a further important survey by Professor Bosch Gimpera in 1939, published in England;<sup>2</sup> because of the current political situation in Spain, it did not become widely known among archaeologists in the peninsula. In this new work there was for the first time a full realization of the duality of invasion routes across the Pyrenees. On the one hand, the Catalan Pyrenees would have been the scene of invasions by 'Urnfield' peoples; but at the Basque end of the mountains there would have been other European invaders, crossing Roncesvalles. It had become necessary to consider this second route, for which there was no archaeological evidence at the time, to achieve a better understanding of the development of subsequent cultures, termed

*posthallstatticas*, which in this way came to form the archaeological basis for those peoples who, two centuries later, were to constitute the standard Celtiberian culture of Iron Age II. The two invasion routes would bear witness to the arrival of peoples who were essentially different in their material culture. While in the east they would be predominantly 'Urnfield', those coming through the western Pyrenees preserved more completely a 'Tumulus' tradition.

This simple, straightforward view allowed a series of archaeological facts to be linked with subsequent developments, which are known principally from historical or linguistic evidence. An immediate inference was to identify the peoples who had come across the Pyrenees as Celts. The linguistic evidence indisputably documents the presence of a Celtic element, in numerous place-names which doubtless date from a pre-Roman period, and which could only be attributed to Celtic migration during the First Iron Age, since in no later period is it possible to establish any penetration from continental Europe. A further consequence of the proposed interpretation, given the antithesis distinguished by linguists between the Celtic and Iberian languages, must be to allow that in Catalonia and the eastern parts of the peninsula 'Urnfield' peoples were completely assimilated by the native population, who gained the upper hand and whose revival is seen in the Iberian culture which characterizes the Second Iron Age.

On this reading the overall picture in Spain parallels the classical sequence of western Europe, with its Hallstatt culture in Iron Age I and La Tène in Iron Age II. The convenience and simplicity of the scheme are undeniable, and it was accepted by the majority of scholars. In 1944 the present writer, as a university thesis,<sup>3</sup> sought to present a material survey of the First Iron Age in Catalonia. This work has not escaped criticism, but in the absence of any new contribution it has served for twenty years as a focus for interpretation.

The material on which this study was based was very heterogeneous and unequal in value. For the most part it comprised pottery without context, from chance finds or from cemeteries in which the majority of the pieces had not been properly excavated. Only one cemetery, Can Missert de Tarrassa, had produced material in quantity; another cemetery in Agullana, Can Bech de Baix, was in course of excavation and finds from there were included provisionally, before they had been reconstructed.<sup>4</sup> A major handicap was Spain's isolation at this time from work in Europe; the author was not *au fait* with finds in the South of France, which are certainly relevant south of the Pyrenees. In these circumstances it was not possible to diverge from the scheme established by Professor Bosch Gimpera in 1939. For many years Spanish archaeologists have accepted it each time new finds or excavations are published, and discussion has centred more on internal questions and on interpretation of the ethnography of Iron Age I peoples and their character as Celts,

Illyrians, *Ambrones* or Ligurians.<sup>5</sup> The archaeological material available today has vastly increased. The wealth of ceramic material, both in its form and its incised and rilled (*acanaladura*) decoration, demonstrates that we are concerned with a phenomenon far more extensive than has been supposed. Its distribution, not only in Catalonia but throughout the Ebro valley, and with considerable penetrations onto the Meseta, offers new grounds for interpretation. It is certainly not so easy to accept that invaders such as these could have been dispersed among the indigenous population, before an Iberian world could have come into being.

There has also been a radical change in the quality of finds. Numerous cemeteries have been excavated by improved methods: in Catalonia, Molá, Anglés, Agullana, Obagues, Vallfogona, Ampurias, Mas de Mussols, Roques de San Formatge, etc., and Azaila, Atalaya de Cortes de Navarra and Valtierra in the remaining Ebro valley.<sup>6</sup> Many of the finds remain partly unpublished. However, there is now evidence from true village settlements (Molá, Vallfogona, Ullastret, Cortes de Navarra),<sup>7</sup> as well as the analogous rich finds north of the Pyrenees in the French departments of Aude (Mailhac) and Roussillon (Millas etc.)<sup>8</sup>

The fact that at Ampurias it was possible to locate a necropolis with material which can be shown to belong in the period which we are studying provided the first chance to relate Catalan Urnfield culture with the Mediterranean world, and thus to obtain absolute dates for some features which previously could be arranged only typologically in a relative sequence. Other extensive excavations in the Ebro valley, such as Cortes de Navarra, El Redal (Logroño), Azaila and Monleon in Aragon, and also on the Meseta itself (Soto de Medinilla, Valladolid), have extended our perspective.<sup>9</sup> In eastern Catalonia, too, a new study of sites in Lower Aragon,<sup>10</sup> together with stratigraphical evidence from Vallfogona de Balaguer and Ullastret, call for a general revision of views and a new approach, including considerable modification of the very concept of a First Iron Age in the Iberian peninsula. The author is currently working on the question, and though it is not possible, within the limits of this volume, to present a definitive study, I shall attempt a number of provisional ideas, which I offer to my friend and esteemed colleague, Professor Christopher Hawkes, who in his own magnificent syntheses of exemplary clarity and precision has contributed so much to the better understanding of European prehistory.

We must first make clear that the concept of a First Iron Age, in the traditional sense of Spanish archaeology, should be rejected. The term 'Hallstatt culture', which I myself have repeatedly used, is equally neither permissible nor useful. We have to take account of a phenomenon of 'Europeanization' in the peninsula, or more precisely in the Ebro valley; and if we have in some way to set this process in context, it must be to maintain that it fell within the limits of what corresponds to the concept of Late Bronze Age. It is also useful to put aside the notion of migrations or invasions,

since we find we are dealing with very complex movements, which took place not only southwards across the Pyrenees, but in both directions; and these connections between distinct groups were moreover persistent. It is also impossible to ignore the indisputable fact that, alongside obvious movements of peoples, there was a highly significant current of cultural influence attributable to trade which, from the eighth century on, intensified connections between peoples on either side of the Pyrenees. At this time, and in consequence of the invasions which gave rise to 'Hallstatt' culture of the early Iron Age in Gaul, not only was attention drawn to the south-west of Europe, as Christopher Hawkes has authoritatively described in one of his latest papers,<sup>11</sup> but there also grew up a marked interest in the Mediterranean coasts of the Peninsula; and there Greek presence since the eighth century, and Etruscan and Punic since the seventh, has assisted in the interpretation of a variety of archaeological material.

Thus we have the outlines of a chronological period which partly overlaps both 'Late Bronze Age' and 'First Iron Age', without there being at any time a break which could indicate a clear division between them. Sporadic use of iron manufactured objects, for example, is earlier than, and independent of, a true iron-working economy. Again, use of wheel-turned pottery due to Mediterranean contacts also pre-dates, and is independent of, the industrialization of pottery manufacture which characterizes the Iberian world and gave rise to the concept of a Second Iron Age.

It is not an easy task to fix the limits of this period, since they are not uniform throughout all those regions of the peninsula in which later historical units are centred. Exploitation of iron by the inhabitants, and the transformation of household workshop practice into a veritable ceramic industry, occurred at a series of descending dates as we go from the coast towards the interior. In the south, in Almeria and Huelva, the change may be dated well back in the eighth century, in the Levant and Catalonia in the seventh, while in the inland regions of the Ebro valley it began only at an advanced stage of the sixth century.

Nor is it easy to determine an upper limit to the period in question. It falls, quite logically, earlier in the region of the Pyrenees than on the central Meseta.<sup>12</sup> If however we accept that it began with the first arrivals of groups from north of the Pyrenees, we may certainly date its inception back to the eleventh century, and possibly into the middle of the century before.

It is of interest to note that from the start there were two access roads across the Pyrenees. In the eastern zone the route along the Segre valley is very obvious; from the Cerdaña it allowed a rapid occupation of the Solsona region. In the Basque Pyrenees and across Roncesvalles the Pamplona basin was quickly reached, with the Arga valley (villages of Leguin en Echauri and Eldorre en Artajona) and the region of Estella (Urbiola).<sup>13</sup> Furthermore, from Pamplona across the Barranca (Alsasua) it

is easy to reach the plain of Alava (village of Kutzemendi) and further west (village of Nuestra Señora de Oro). The two routes converge towards the Ebro, where we find the sites of La Hoya (La Guardia en Alava), El Redal (Logroño) and Valtierra, Arguedas<sup>14</sup> and Cortes in Navarre, with evidence of early arrivals of groups from Europe (fig. 19).

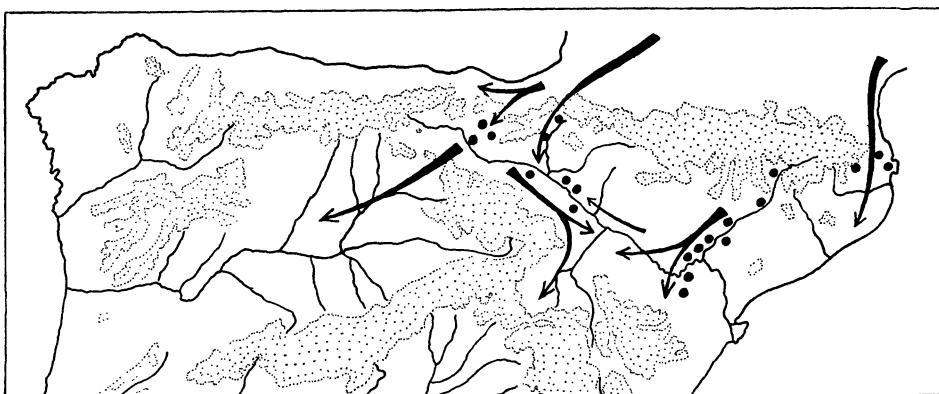


Figure 19. Sketch of Late Bronze—Early Iron Age migration into Spain

All these routes across the Pyrenees had earlier been used by small bands of metal-workers, intent on exploiting veins of copper. Among them, as a novel and unfamiliar element, there stand out some brachycephalic individuals of Alpine type, now recorded for the first time south of the Pyrenees. It is not easy to determine the absolute date of these first infiltrations, but it appears to correspond to the end of the Middle Bronze Age. Among the material culture there are as yet no elements which can be related to the Urnfield culture. Nor is it easy to decide what funerary rites were practised, since it was doubtless exceptional causes, at the two clearest sites, which preserved skeletal remains for study. At Riner (Lérida) an accident at work cost the life of a miner. At Urbiola (Navarre) a small community (a true band, as among present-day gypsies) was buried by a landslide on the site of former metal-workings where they had camped. Other finds in the Solsonés area of Catalonia seem to indicate that these groups still practised inhumation. All subsequent groups who arrived across the Pyrenees were, without known exception, cremators.

A second phase is represented by the arrival of highly characteristic groups, recognizable principally by their pottery, among which two ceramic families can be distinguished. The one comprises small undecorated vases, in simple forms of cups and bowls, frequently carinated and with the surface burnished or smoothed with a spatula.<sup>15</sup> There were developed handles with cylindrical or rectangular extensions (*apéndices*), occasionally bifid. Incised geometric ornament is sporadically found, and

also *Kerbschnitt* (Seriña). The other ceramic family consists of large storage containers which make up the ordinary ware, with flat bases and a relief-cordon decoration. Antecedents are in part derived from north of the Pyrenees, in part local in origin. These containers performed the role of true *pitthoi*, for keeping food in stores and houses, until at a later stage they were replaced by silos. These too were to be abandoned when, with the industrialization of pottery manufacture, large wheel-turned vessels (*dolia* or pseudo-*dolia*) appeared under Greek influence.

Many years ago (1942) when the author first drew attention to the pottery with a knobbed handle extension (*apéndice de botón*) he thought this belonged to very early groups connected with north Italian cultures, and remotely Danubian in inspiration.<sup>16</sup> While not denying that this is the ultimate origin, we must today, in view of the pottery's clear association in Catalonia with typical Urnfield ware, allow that its overall transmission falls into two phases. There were first the influences or movements which spread the pottery tradition to the French Midi, where it underwent marked development and came to be mixed with a *Kerbschnitt* decorated ware. Subsequently, at a much later period, it appeared south of the Pyrenees, covering the whole of Catalonia and penetrating into Aragon, via the lower valley of the Segre towards Lower Aragon (Monleon, Caspe). This movement was effected in connection with the arrival of what is clearly Urnfield pottery; and consequently we should allow that Urnfield ware from the start represents very mixed groups, some containing a good proportion of elements from southern France, together with others of purer central European origin.

We should emphasize that these first Urnfield people to arrive in Catalonia came at a very early date, which marks the start of the Late Bronze Age. The view expressed by N. K. Sandars in her valuable book,<sup>17</sup> in attempting to connect the Catalan Urnfields with a late stage of renaissance among the French Urnfields, gives too much weight to rich and evolved phases of our culture, from which the material is better known because there is more of it. Furthermore, the scarcity of early bronzes in Catalonia, which provides her with an argument from silence, has been overstressed. Nowadays, with excavation of the stratified sites of Vallfogona de Balaguer and Cortes de Navarra, I believe the initial date of the sub-Pyrenean urnfields should be raised. It should be pointed out that scarcity of bronzes is a feature not only of the initial Urnfield phase but of the whole extent of the culture's development, until 'Iberian culture' is established, which in Catalonia falls after 600 B.C. This persistent phenomenon allows of only one, obvious and logical, explanation. The presence along our coasts of Greek and Etruscan merchants, who were in fact responsible for introducing iron metallurgy, contributed to a systematic withdrawal of bronze tools and weapons, since they actively bought them up in order to recover the metal for their own industries.<sup>18</sup> As a general rule it can be seen that the absence

or scarcity of bronze finds in Catalonia bears a direct relationship to distance from the coasts, or from navigable rivers used by these Mediterranean traders. Underwater finds bear witness to this trade in recovered metal.<sup>19</sup>

Another point which deserves emphasis is that at the time of the first Urnfield arrivals in Catalonia the native population in the north of the region was still following a megalithic tradition, outdated yet vital, which led to construction of dolmenic cists throughout the Middle Bronze Age. This is of importance for explaining the strength of a barrow-building tradition which we shall see reappearing in subsequent centuries, and which has very little to do with the true Tumulus culture of western Europe.

The initial date for arrival of urnfields in Catalonia appears to be long before the eighth century. Excavation of the La Pedrera settlement at Vallfogona de Balaguer has revealed nine substantial levels (fig. 20). The lower levels (V-IX) correspond to typical Urnfield peoples, with rilled ware of early type and characteristic bronzes (pins and moulds for socketed axes). Level VII may be considered as fully eighth century, and we may then suppose that the two lowest layers, VIII-IX, which together are more than 1.2 m in depth, represent a lengthy period of occupation, at a possible rough estimate, of more than a century. Consequently we should date the first appearance of these people in the valley of the Segre back towards 1000 B.C.

From then on new groups continue to appear across the Pyrenees, and the large number of finds – in cemeteries, settlements and caves – demonstrate an increasing density of population, which explains how the new funerary practice of cremation had the power to grow completely dominant. We can now define the routes by which these people spread, either by migration or through contacts between neighbouring groups, resulting in a certain degree of uniformity in their material culture. We now find not only identical pottery, bronzes and burial practices, but also the same layout of settlements and house forms etc.

Through the eastern Pyrenees and the passes of Pertus and Coll de l'Illa, groups from Roussillon quickly penetrated into the regions of Ampurdan, Garrotxa and Gironés. This is shown by numerous sites, with cemeteries both in the coastal zone (Rosas, Ampurias, Ullastret) and in the interior (Agullana, Angles, Camallera, etc.). From Gironés along the lower reaches of the Tordera they occupied the littoral of Maresme from Blanes to the Llobregat, also colonizing the flat country of the interior, such as El Vallés.

Through the Segre route, already mentioned, a steady progress of Urnfield groups is documented by finds in Bor (Cerdaña), Andorra, Senyús, Guissona, Vilaplana and Hostalroig,<sup>20</sup> and from the heights of Balaguer they thickly settled the plains of Urgel and Segrià until they reached the territories of the Ebro and Lower Aragon. The density of finds in these inland regions seems to indicate that penetration



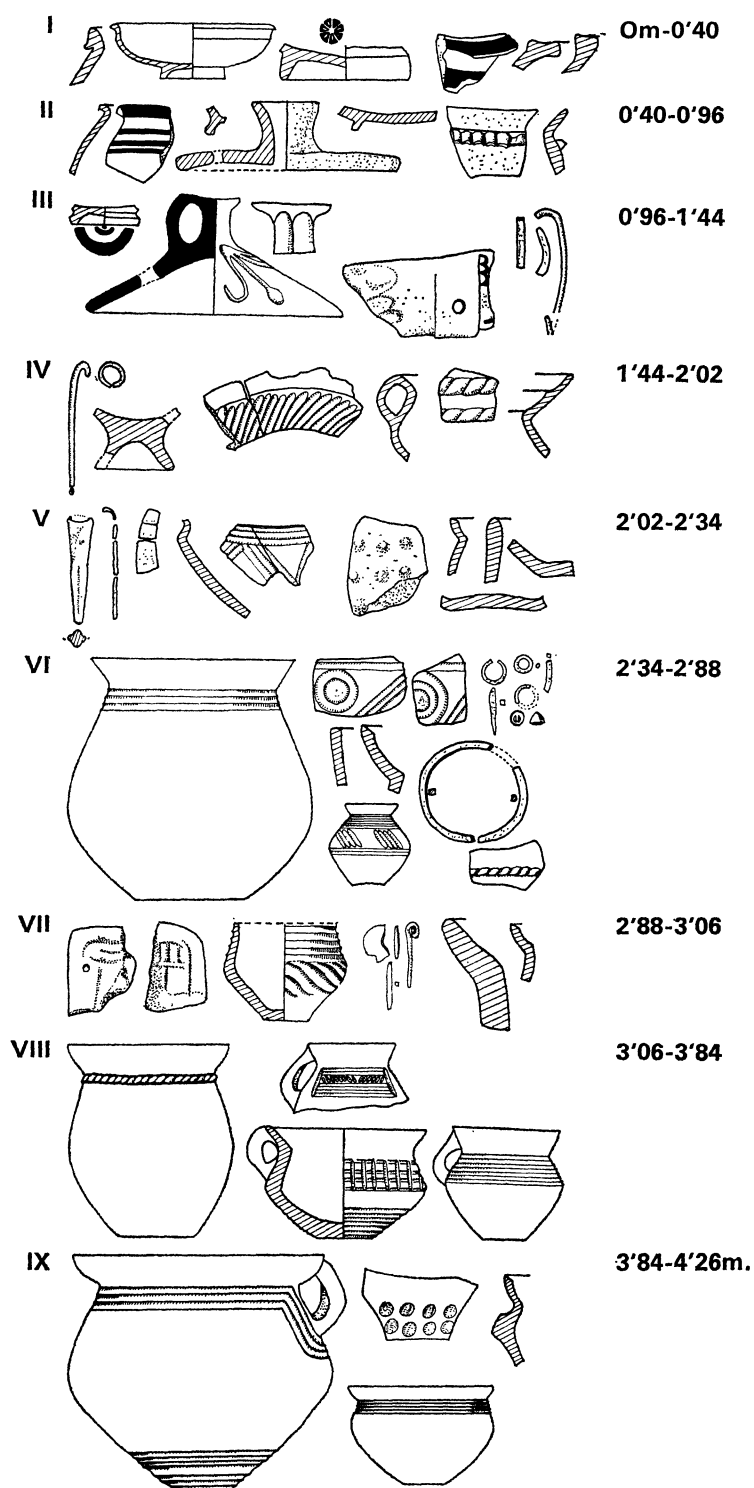


Figure 20. Diagram of the stratigraphy of La Pedrera, Vallfogona de Balaguer (Lérida)

routes through the interior were more frequented than those further east, or that the groups who used them followed a more pastoral, transhumant, economy, which lent them greater mobility. We see in fact that from the Segre they spread out along the southern watershed of the Montsec range, towards the lower basins of the Noguera Pallaresa and Noguera Ribagorzana rivers, bordered to the south by the sub-desert zone of Los Monegros. This last region was occupied only in years of exceptional rainfall, and no permanent settlements are known there. These movements initiated a permanent occupation of the valley of the middle Ebro, where later 'Iberian' villages always begin with the same lower layers of Late Bronze material.

Clearer evidence is constantly accumulating of the importance assumed also by western passes of the Pyrenees, into the Basque regions, already discussed. Once again, the migrations were highly complex, though it is not easy to trace the exact affiliations of the groups who crossed from north of the mountains. Christopher Hawkes has recently produced a survey of these movements, which he ascribed to fugitive groups unsettled by the progress of the new Hallstatt culture into France.<sup>21</sup> His vivid account of a 'bronze sword' people crossing Navarre and consequently conquering the Meseta, to expand towards the south-west, may well be justified; though in the actual Ebro basin there are few traces of their passing. All the known cemeteries in Navarre, Alava and La Rioja are in fact appropriately urnfield, and not barrow-graves; although it is highly likely that the first settlements near the Ebro (Cortes, Arguedas, Valtierra) were occupied by groups who came up the river, and that analogously in Navarre, where we have described them bordering the Los Monegros zone to the south, they moved along the banks of the Ebro, avoiding La Bardena. Only later did they mix with groups who had come across the Basque Pyrenees.

A feature which appears to confirm this view is excised, or *Kerbschnitt*, decoration. In the eastern zone of Catalonia it makes a sporadic appearance in only one, typically Middle Bronze, find (Seriña), where it is obviously an import. At the same time, more than a hundred sites with rilled or incised pottery, in one way or another relatable to Urnfield culture, have failed to produce a single example of this decoration. Its absence cannot be ascribed to chance, given the present density of material known. By contrast, along the length of the Ebro we find this excised ware in some abundance, principally in its middle and upper valley, on sites between Lower Aragon (Monleon, Roquizal del Rullo, Escodines, Tossal Redó) and those reaching into La Rioja (Redal) and Navarre (Fitero). Finds at Cortes de Navarra were scarce and occurred outside the excavations, which seems to indicate that the inhabitants at no stage made this pottery, but were in contact with other peoples who did. The presence of *Kerbschnitt* at Pangua (Treviño), and in the village of Kutzemendi, adjacent to Vitoria, precisely on one of the roads leading to the Basque Pyrenees in

Navarre supports the assumption that people bringing the incised ware tradition had arrived over the western Pyrenees, and not through Catalonia.

These features show that the region of the middle Ebro became a meeting-ground for the two currents arriving from north of the Pyrenees which introduced a final Bronze Age culture into Spain. Their conquest of the Meseta initiated extensive Late Bronze developments and an important pastoral culture, on which the *castros* of Castile were to be based.

All these peoples remained ignorant of iron-working for a long period, although from the eighth century they acquired small manufactured objects (knives, fibulae) from Greek traders who came up the Ebro. The introduction of iron is thus clearly the result of colonizing activity. In southern Spain the Phoenicians had introduced it from their trading posts at Cadiz, Malaca and Sexi,<sup>22</sup> and from the eighth century iron is a fairly usual find on archaeological sites. In Catalonia, despite the fact that Urnfield peoples could possibly have acquired a knowledge of iron-working in their countries of origin, commerce with the Greeks was equally responsible for its diffusion.

That there was trading very early round the Mediterranean is apparent in the development of native pottery, which adopted decorative motifs obviously Italian in origin.<sup>23</sup> This pottery is incised with stylized patterns, anthropomorphic, zoomorphic or generally geometric, such as were current among the population around Cumae when the Greeks first arrived and which consequently may go back to the eighth century. This date exactly corresponds with Greek literary tradition, which assigns the foundation of Rhodé to that century (prior to the first Olympiad, or before 776 B.C.). This type of pottery appears on Catalan sites in coastal regions both north and south of the Pyrenees, exactly the regions of earliest contact with Greek merchants, and it is one of the most characteristic features of what I have termed the Agullana group.

In the middle of the seventh century the foundation of Ebussus (Ibiza) introduced a new, Punic, Mediterranean stimulus, chiefly perceptible among settlements round the mouth of the Ebro. These consist principally of urnfields into which were now imported Phoenician and Greek (Cypriot and Naucratic) goods, as is well documented in the cemeteries of Can Canyis (Vendrell) and Mas de Mussols (Tortosa).<sup>24</sup>

Despite the marked influence of Mediterranean commerce, the indigenous communities of Catalonia do not appear completely uniform, and among them two active funerary traditions are apparent. The one is urnfield, and the other a barrow-building tradition, in which cemeteries are made up of groups of small tumuli with cists containing the cinerary urns. Recent finds at Puig Alt (Rosas)<sup>25</sup> and Seros (Roques de San Formatge) provide the best examples of the survival of a ritual which

reappears in classical sites in Lower Aragon, and which poses difficult questions of derivation. It would appear that this type of barrow has nothing to do with the Tumulus tradition of western Europe, but in fact represents continuity with Pyrenean traditions which have their roots in megalithic culture.

During the eighth and seventh centuries the use of iron became generally diffused and it appears at all native sites in Catalonia. Inland in the Ebro valley it is found in villages IIb and IIa at Cortes de Navarra. The existence of large lumps of ore and of forges at the latter site is proof of local iron-working. In fact, if we should wish to select a point of division between a Late Bronze Age and a First Iron Age we should have to place it at the beginning of the eighth century, when local peoples began working in the new metal. Sites like Cortes however show that there was a veritable continuity, which does not justify any such division.

In the sixth century settlements in the coastal zone show marked Mediterranean influence and the Iberian culture of Catalonia comes into being, without any abrupt change, or alterations in population. The same population which in the eighth and seventh centuries developed a material culture of Urnfield type, in the sixth century acquired new customs, new techniques and new tastes, which the geographers and historians of the ancient world termed 'Iberian'. This transformation could have taken place gradually, as the result of close connections with Greek, Etruscan and Carthaginian merchants. The presence of known trading posts (Rhode and Emporion), together with probable other, but not localized, ones (Cypsela, Salauris, Lebedontia, Hystra and Sarna), exerted exceptional cultural influence among the local population. Houses grew more complex and changed in plan, reflecting new social requirements, and production increased to augment purchasing power. In the villages a system of storage in silos became highly developed, and there was a start to industrialized output of some products, like pottery, which by now was wheel-turned and imitated Greek and Punic wares in form and decoration.

In summary, and pending fuller systematic treatment, the following résumé may be proposed.

At the end of the second millennium small groups from central Europe crossed the Pyrenees, including elements of obvious Alpine derivation, and with a material culture which retained a strong Middle Bronze Age tradition. These appear in Spain only north of the Ebro, but the distribution indicates they arrived via both ends of the Pyrenean range.

Around 1000 B.C. began a continuous influx of groups, using the same routes. These were numerous, but show little uniformity. Among some there was a predominance of elements (pottery with handle-extensions) which immediately before had their home in the south of France. Other groups were more or less purely Urnfield. These movements represent, in effect, the start of a Late Bronze Age.

For two centuries there was continual coming and going across the Pyrenees, resulting in occupation of the country as far as the line of the Ebro, and absorption of all earlier indigenous inhabitants. By extending along the Ebro, these people then made contact with other groups, who had arrived via the Basque regions and descended the Rioja valley. There was little uniformity among these latter groups, and a complex process of interchanges and acculturation began, which allows of no simple division into periods. Many of the newcomers were not completely cut off from their place of origin, and maintained active connections between north and south of the Pyrenees. Others, by contrast, penetrated on to the Meseta and made their way towards the Atlantic regions in the west. From the end of the eighth century the growing influence of Mediterranean commerce resulted in a rapid rise in living standards, stimulated sedentary settlement and introduced not only luxury goods but new techniques, such as iron-working, wheel-turned pottery and possibly new methods of cultivation. The preponderance of these influences is found along the navigable waters of the Ebro, reaching into Navarre, the Basque regions and indirectly into Aquitaine.

From the sixth century these processes, accelerated by the stimulus given by Ampurias, result in the appearance of an Iberian culture in Catalonia, which reached Lower Aragon in the same century. A little later, on the middle Ebro and adjacent regions of the eastern Meseta, there also appeared the Celtiberian culture. Shortly after 500 B.C. the Iberian world created its own writing, and the inhabitants of the Ebro valley attained to the status of a historic people.

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## Notes

- 1 P. Bosch Gimpera, *Etnología prehistórica de la Península Ibérica* (Barcelona, 1932: with earlier biography); further in *El Poblamiento y la Formación de los Pueblos de España* (Mexico, 1944).
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# A southern view of Situla Art

*John Boardman*





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The decorated bronze situlae from the south-eastern Alps have earned themselves the rare distinction, among all European prehistoric artefacts, of a title respected by archaeologists and art-historians alike – Situla Art. They deserve it for the distinctive quality of their style, and not least for their appearance at a time and place which would seem to promise nothing more than provincial if not barbarous copies of the more developed figurative arts of the Italian and Balkan peninsulas. Their odd position in European prehistory has also earned them a share of controversy over their date and the influences they betray. By now there seems general agreement that the main period of their production lies in the late sixth and the fifth centuries B.C. Greater difficulties have beset attempts to define and date the sources of their style. The arts of Greece, via Etruria, are seen by some to have played a major part. There is a tendency to believe that Etruscan borrowings from Greece may appear long after the relevant models were out of date in Greek art, and the same process may tend to depress still further the date of the northern situlae. There is the further complication that we have on occasion to deal with motifs which the Greeks themselves had learned from the Near East, and for the student of style this fourth-hand transmission of eastern motifs cannot fail to be of interest and instruction. It has perhaps been the role of the students of Mediterranean archaeology to stress the connections between Situla Art and the south and to lower chronology. The counter to this emphasizes the native elements in the figure scenes, which are taken for vivid representations of contemporary life only superficially affected by foreign fashions. There is obviously much truth in the latter view, but the extraordinary isolation of this art makes it obvious that its inception must be due to the example of the south and that elucidation of its date must depend on the identification and date of any relevant southern models. This is, in fact, none too easy, so strong is the native or, I would say, individual element.

Many scholars have exercised themselves over these problems, and the situlae are enjoying a new period of celebrity and interest. The most comprehensive recent account is by W. Lucke in *Die Situla in Providence* (1962). O.-H. Frey's fine edition of this work, after Lucke's death, makes it an invaluable source book for any study of the situlae, since not only are all relevant pieces listed and illustrated, but there is some

interplay in the interpretations offered by the author and the editor. The numbers given to the situlae here are those of Frey's list, sometimes qualified by the title of the object, if it has acquired one – like 'the Certosa situla' or 'the Vače situla'. Frey has, moreover, placed us still further in his debt by a detailed study of the Este style in situlae and other bronze work.<sup>1</sup> He most generously let me see proofs of his book on the Este bronzes (*31. Band der Römisch-Germanischen Forschungen*) which was still in the press while this paper was being written. This series provides the necessary local background for the Alpine situlae. Its beginning is demonstrably earlier, and although its figure repertory is closely bound to the more banal animal-frieze style of orientalizing Etruria, it would appear that the Alpine situlae are subordinate to Este, although more detailed in composition and more brilliant in conception. By demonstrating this relationship, Frey has made it possible to define the unity and independence of the Alpine situlae more clearly, and some at least of the false trails laid by direct comparisons with Etruria are revealed.

The intention of the present paper, by one whose main interests lie farther from the home of the situlae than do those of most archaeologists who have discussed them, is, first, to introduce from Greece another bronze of closely related style which is likely to complicate rather than elucidate the problems of the situlae and their antecedents; secondly to suggest that there may be other works from Greece with relevant subject matter and technique which require consideration before too much in the Este and Alpine situlae is attributed to purely Italian precedent; and finally, to discuss select patterns and motifs on the Alpine situlae and their relationship to the south, which may throw light on matters of wider interest than the date and origins of the situlae themselves. The mere phenomenon of this art is at once a challenge and something of a mystery. The figurative art of a culture can often tell more of immediate social-historical value than a protracted study of plain artefacts. Where the problems of distinguishing the native from the borrowed are so acute the archaeologist-iconographer (and in Greek archaeology at least the combination is a normal one) meets his severest test, and he can take a salutary lesson from observing how borrowed motifs can be adapted or translated. This short essay on some of the problems involved in relating the arts of the Mediterranean countries and Europe is offered, with all respect, to an archaeologist whose own range of interests is unrivalled.

The bronze plaque shown in pl. 11 and fig. 21 is in the National Museum of Athens (NM 16514). It is said to have been found just west of Asea in Arcadia and there seems no good reason to doubt the provenance. It was fully published by Semni Karouzou in *Archaiologikon Deltion* xvi (1960), 63–71, with pls. 28A–33, as an Archaic Greek bronze belt. The repoussé decoration with traced detail<sup>2</sup> shows two chariots moving right, with their charioteers, one of whom carries a shield, the other a goad

(rather than 'two spears'). Between the chariots two warriors face each other and fight. Before the chariots are parts of two other facing figures, apparently not armed, and one with at least one arm raised, with a goose between them. The total preserved length is 42 cm and the average height 8.5 cm. At the left are three vertical slits and along the bottom edge are small holes spaced about 2.5–3.0 cm apart. Mrs

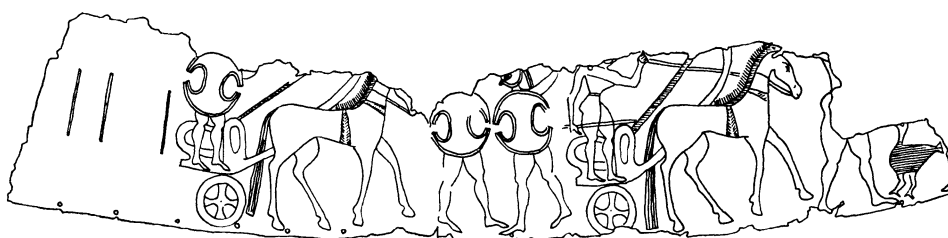


Figure 21. Sketch of Athens NM 16514, bronze strip from Arcadia. After Kondopoulos

Karouzou took this plaque for part of a belt, the slits being intended to receive fastening straps, and the holes for securing the strip to a leather backing. There are some difficulties in accepting this identification. Parts of metal belts are best recognized by their clasps, and there are no ancient belts with slits like this for the belt hooks or for straps. The only strap belts<sup>3</sup> known have straight parallel sides, while these are curved, and could only then be worn neatly in a hipster position. The bottom edge is rough and broken as though there had been a ridge or moulding below it, and no finished edge, as on other belts. If the backing was wrapped round this edge it would both have been cut and have obscured part of the decoration. The way the upper edge is missing, as well as the state of the lower edge, suggest that the plaque continued both above and below the preserved frieze: in other words it is the covering of a conoid part of some larger object, but not from a situla of any known type, since they do not and need not accommodate the row of small holes or the slits.<sup>4</sup> The holes do suggest nailing, but we require some more complete object of this type for certainty, and it is possible that it was attached to some piece of furniture.

Mrs Karouzou explained the bronze as Greek, perhaps Argive, of the second quarter of the seventh century B.C. Stylistically, however, it has much more in common with the north Italian situlae and bronzes, and the technique is the same. Notice especially the loose structure of bodies with no feeling for pattern of limbs, the lack of anatomical detail which is lavished instead on accessories like the horses' manes and excessively long tails, and the faltering composition with no ground line and the feet of men and horses set at irregular levels. The structure of the chariots seems misunderstood and their charioteers and wheels are oddly placed. Of the two warriors one is wearing his shield on the wrong arm. Individually these features

might be paralleled in Greek work but taken together they give an overall non-Greek appearance. The feature, however, which most closely links the bronze to Situla Art is the group on the right: two men facing each other, one with an arm raised, and without a shield or armour. These are most easily restored as the two boxers who appear so often on the situlae (as pl. 16), and the fat goose between them may be their prize, like the vessel or helmet shown between the boxers on the situlae. The main difference seems to be that our boxer has his right arm raised where on the situlae it is bent and lowered, but a parallel for this rather primitive stance can be found on Greek vases,<sup>5</sup> and we shall see that the iconography of the bronze is Greek even if the style and execution may not be. For while all the stylistic details—treatment of figures, ornament and composition—can be matched on the situlae, most of the other antiquarian features are not. Their Greek character and comparanda were well explored by Mrs Karouzou, but need to be briefly rehearsed here in the light of comparisons with the situlae.

The chariots are of mainland Greek type, and not that current in Etruria (resembling the East Greek) or on the situlae. The front rail is shown face-on, as on some Late Geometric Greek works, where too we see the separated wheel.<sup>6</sup> The charioteers' legs are oddly superimposed on the chariot, and the chariot pole and its support are lifted clear of the horses. Only one horse is shown but there must have been two with such a chariot pole. This is also a Late Geometric convention in Greece, but we must not confuse the naïvety of the work on the bronze with Geometric convention, and the artist knew enough to make clear a chariot step or projecting platform. The detailing of the horses' neck and belly bands appears on Greek vases only towards the middle of the seventh century, as on Proto-attic vases, where we see also the exceptionally long tails, and the rather birdlike treatment of the warriors' faces.<sup>7</sup> The bird between the boxers most resembles the plump Greek sub-Geometric breed.

Three 'Boeotian' shields are carried. The form is generally agreed to derive from the 'Dipylon shield' as shown on Geometric vases, but it is fashionable nowadays to believe them both artistic figments.<sup>8</sup> I see no reason to doubt the existence in Geometric Greece of a light, though sometimes large, shield, basically a hide stretched on a wooden or wicker frame, pinched in at the side in a way to produce curved edges and a convex profile affording a central handgrip. It may well be regarded as a survival of a Bronze Age type and construction, which received monumental expression in the Minoan figure-of-eight shields, but could be fashioned as what Homer would call a tower-shield, or as a light shield like those on the Mycenae Warrior Vase,<sup>9</sup> or later as the pelta. The Geometric artist's rendering is inevitable. The form is still shown in sixth-century vases for light shields with pronounced top and bottom stretchers and a convex profile.<sup>10</sup> What may be doubted is whether a metal-faced

form with hoplite fittings, such as is shown on vases, ever existed; but if it is a fiction it is unparalleled for its persistence and homogeneity of treatment in Greek art and all over the Greek world, as well as outside it, at Persepolis.<sup>11</sup> The shields on our bronze could represent something real, known to the artist.<sup>12</sup>

To sum up: the Athens bronze is, in terms of its Greek iconography, no earlier than the mid-seventh century. It is the sheathing from a broad conoid part of an object of uncertain purpose. Its style has much in common with the figure style of Situla Art, which is certainly later in inception, although possibly not by much, and there is an iconographic connection if the restoration of a boxer group is accepted. It was found in Greece, but need not have been made there – indeed there are several examples of early Italian metal-work from Greek sites.<sup>13</sup> But the artist takes his subjects wholly from Greek art and although his treatment betrays some naïvety and misunderstanding it offers nothing of even the hellenizing styles of north Italy. It may be that this should be regarded as ‘provincial’ work, possibly originating somewhere on the shores of the Adriatic (it is from the north-west Peloponnese), in a distinctive but non-Greek style which has some connection, and perhaps a direct one, with bronze workshops in the area where the decorated situlae were to become familiar.

Another bronze in Athens (NM 7836), published here in new photographs kindly provided by the National Museum (pl. 12–13) and the sketch, fig. 22, is exhibited in the same room as the bronze strip from Arcadia. As restored and illustrated it represents the intelligible fragments from a collection of about 66 found in a tomb in Boeotia. Furtwängler published isolated fragments in 1880,<sup>14</sup> and when his article was reprinted in his *Kleine Schriften*<sup>15</sup> he added a rough drawing assembling the major pieces. The bronze as reassembled is incomplete at the sides and below. Its preserved height is 13.9 cm and length 34.9 cm. Part of the top edge is preserved, but there are no indisputable traces of pin or nail holes. There is a vertical join between two pieces, like those on the situlae, with two stout rivets preserved. The object to which the plaques belonged seems to have been cylindrical, and so possibly a bucket or cista, although this is not a normal Greek bronze shape.

There are three figure friezes executed in repoussé with carefully traced outline and details. Between the friezes there are no clear dividing bands. Instead, some short lines were lightly traced below the feet of animals, and in the upper frieze the figures are set at different levels.

Frieze 1. At the right of the join a charioteer, armed with a sword and with a light ‘Boeotian’ shield shown in profile at his back, is driving a two-horse chariot. At the left of the join and at a higher level there is first a man, naked but for a hair

band and belt (?) aiming a spear. Then, and at roughly the same level, a second two-horse chariot carries a charioteer and a warrior with helmet, spear and round shield of hoplite dimensions. The helmet looks like the early Corinthian type, apparently without a crest. The form of the front chariot rail is not quite clear. The strap fastening the chariot pole is wrapped round it,<sup>16</sup> but the curving line behind it seems struc-



Figure 22. Sketch of Athens NM 7836, bronze strip from Boeotia (pls 12, 13). 34.9 × 13.9 cm

tural and not the ends of reins. If so, this is the usual, distorted view of seventh-century art (compare the Arcadia bronze) where, however, the back line is usually shown vertical.<sup>17</sup> The lively high-stepping team, with the long slim bodies and tails, closely resembles the racing groups on mid-seventh-century Proto-corinthian vases.<sup>18</sup>

In front of the chariot, at a lower level and greater scale, kneels an archer aiming an arrow at a boar which is set much higher in the field. The Bowman is naked but for a line belt. He has a long pointed beard and long hair, dressed in horizontal waves, exactly the features of mid-seventh-century Proto-corinthian and Proto-attic figures.<sup>19</sup> His bow is of the usual composite type. Beyond the boar, at the break, is an outstretched human arm, possibly of a spearman, at the same scale as the archer.

The bow is not a normal weapon against a boar. Hero archers joined the hunt of the Calydonian boar, but there are no certain representations of the story until the sixth century, when the archers are not important participants and chariots have no part. Earlier boar hunts show spearmen.<sup>20</sup> The chariots on the bronze need not, at any rate, have anything to do with the hunt, and if the artist was composing his frieze rather haphazardly – or with a purpose which quite escapes us – we need not try to read too much into this juxtaposition of motifs or the manner of the hunt. The lone spearman behind the chariot looks like an afterthought, with some interest in the boar.

Frieze 2. To the right of the join is the end of the leg of an animal, apparently running right. To the left of the join at least four grazing bovines are followed by a goat, walking.

Frieze 3. To the left of the join is a tiny shepherd, in a knee-length cloak and a broad-rimmed hat, shouldering one stick and holding out another. He looks strangely familiar. Before him are a massive ram and at least two short-horned sheep. Their fleece is lightly indicated by close-set lines, those on the ram making a rough pattern of alternating arcs.

The friezes as preserved give no clue to their original length, but it may be that the boar marks the centre point of one side of the cylindrical object, which would then have been rather less than 30 cm across.

Humfry Payne characterized these fragments as 'of very primitive style: they may be of local make, but in any case are based on Proto-corinthian models'. This may be true of the human figures and chariot teams, but these might be matched also outside Corinth in the mid-seventh century or later. Of the animals it is certainly not true – the cattle with their long slim necks, the puny horns of the sheep and goat, and their tiny heads. There is nothing like this in Proto-corinthian or Corinthian vase-painting, and the differences are not purely a matter of provincial imitation since, if this is indeed seventh-century work, the artist has original ideas about composition, with the varying and broken ground lines, and about the representation of livestock. To call it 'primitive' does little justice to these qualities, perhaps more apparent now that the bronze has been cleaned. But what is the date? Figure comparisons suggest the mid-seventh century, but charioteers with their shields slung at their backs are not otherwise seen before the sixth century. Is there something of East Greece here? The cattle are treated rather like the more familiar rows of long-necked grazing goats on Wild Goat vases from the eastern Aegean. There too rams and sheep are more often shown than in mainland Greek art, but the figure scenes could not be matched until well into the sixth century. For the grazing bulls we might look to the Cretan shields, where there are also some long-necked beasts, to Phoenician bronze bowls or even to Etruria.<sup>21</sup> In fact, in many respects this is about as foreign to the general run of Archaic Greek bronzes as is the bronze strip from Arcadia. I would suggest a date in the second half of the seventh century, and its home a centre open to Corinthian influence, possibly (and this arrived at mainly by elimination) in western Greece.

Its relevance to the present study is that it is evidence for a Greek bronze vessel decorated with repoussé and tracing, with figure-friezes disposed much as on the situlae, and introducing already in the seventh century a pastoral scene, including shepherd,<sup>22</sup> which is somewhat unexpected in Greece at this date. Between the subjects, shape and composition of this bronze, and the broadly 'situla' style of the



Arcadia bronze, with its purely Greek subjects, we may glimpse something of the Mediterranean models which might, through trade up the Adriatic, have given some impetus to the work of the Alpine artists. The connections may seem tenuous, but I think they are real. Now that the Alpine bronzes are better understood it may be time to look more closely at workshops on the periphery of the Greek world, and try to understand their origins and possible influence.

There is little enough otherwise in Greece to compare with the north Italian and Alpine bronzes, but what little there is may be briefly reviewed if the possibility of some direct influence on one or other series can be admitted.

The repoussé technique for decoration had been long known in Europe, but in this form and for figure subjects, with details traced and sometimes lightly incised on the sheet bronze, the antecedents are fewer. It is basically the technique of the Phoenician bowls which reach Etruria in the seventh century and Greece much earlier. In eighth-century Greece the technique was applied to the famous series of shields from the Idaean Cave in Crete, from workshops which were certainly at first staffed by easterners, and may have continued in the hands of immigrant craftsmen for some time.<sup>23</sup> One Cretan bronze which is in a different and more north Syrian style to that of the shields, the famous tympanon, has its close kin in the decorated cauldron stands found at Olympia and, in Etruria, at Praeneste.<sup>24</sup> The tympanon seems to have been designed for the Idaean Cave<sup>25</sup> and an unremarked Cretan feature on one of the Praeneste stands is the bud frieze with alternate members stylized as bees in a common Cretan manner.<sup>26</sup> If this school of bronzesmiths had any influence on work in Italy it would have been strongly oriental in type, with but little Greek or Cretan picked up *en route*. A broad similarity, however, has been observed between the animal friezes on the Cretan shields and on the situlae. The use of one other feature may also be mentioned, both in this context of possible influence via Greece, and for its own interest. It is the cable pattern. This was introduced to the west on eastern bronzes and ivories. As a pattern it can be treated in two ways: with emphasis on the 'strands' which are well spaced and give the appearance of a string of pointed ovals, or with emphasis on the circular 'eyes' or oval interspaces around which the plump strands are wound (this can often be drawn with compasses). It is, at best, a finicky pattern, and to draughtsmen either of these approaches makes execution easier. Both are observed on Cretan vases<sup>27</sup> (fig. 23 : a, b), and both on the Alpine bronzes<sup>28</sup> (fig. 23 : d, e). On most other Greek and Etruscan work it is the variety with thick strands and usually circular eyes which is preferred. Sometimes on the Alpine bronzes the artist attempts, understandably, to abbreviate or break the cable (fig. 23 : f, g), and on the Moritzing cista (no. 13; here, fig. 23 : h) he creates from it an interesting pattern in which we may read a truly European translation of the formal eastern cable. The Cretan equivalent is more 'cubist' in treatment<sup>29</sup> (fig. 23 : c).

## A SOUTHERN VIEW OF SITULA ART

The early Cretan bronzes do no more than hint at the patterns and subjects of the situlae. The technique of repoussé with tracing was not otherwise much practised in Greece, and the pieces from Arcadia and Boeotia which we have studied are in this respect too by no means typical of Greek seventh-century decorative bronzes.<sup>30</sup> These are more often simply incised or repoussé with incised detail—as the Cretan armour and tripod legs;<sup>31</sup> or worked over matrices—as the shield-band reliefs.<sup>32</sup>

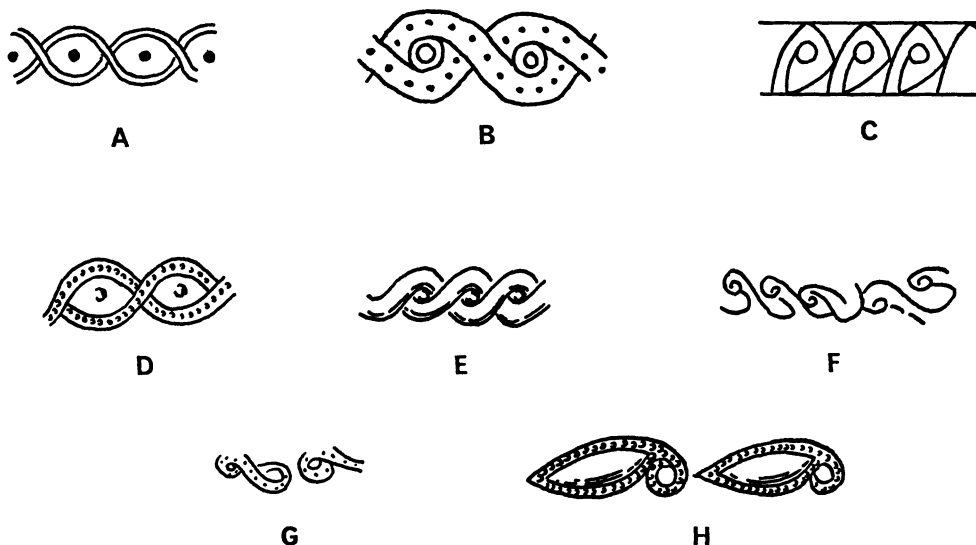


Figure 23. Cable patterns: A-C, from Cretan seventh-century vases; D-H, from Alpine situlae, Lucke-Frey nos 1, 27, 6, 8, 13

It may be that the relevance of these bronzes from Greece to Situla Art can never be convincingly demonstrated, or may be quite illusory, but some further speculation is possible. This can be based on a brief survey of the situlae vis-à-vis their local predecessors, and consideration of what might be learned about their character and date from internal sources. After Frey's studies this task becomes much easier. The decorated Este bronzes, beginning in the later seventh century and with a career probably of two centuries, are initially wholly dependent on Etruscan models for their dominant animal-frieze style. In this series the Benvenuti situla, datable by context to about 600 B.C., is the first to admit composition and figure motifs which are strictly comparable with the Alpine situlae. Moreover, it is the only one with ambitious figure work for a century or more. We might deduce that the Benvenuti situla is isolated evidence of influence on the duller Este bronzes by the Alpine situlae.<sup>33</sup> But the latter have been dated, mainly by context and style, to the end of

the sixth century and later (see below). Frey posits earlier, as yet undiscovered, examples of the Alpine series to explain this phenomenon, and points to various primitive features, not themselves derived from Este, which indicate an earlier phase. If this were so, it might also demonstrate some priority in this whole complex of northern bronzes for the Alpine workshops. Their situlae are far less 'Etruscanizing' than the Este bronzes, and display far more independence and imagination, even in the execution of the more pedestrian animal-frieze situlae, as pl. 14 (I take this opportunity to show a photograph of the newly cleaned Vače situla in Oxford, no. 34). Frey has shown how the Alpine area seems to have been exposed to more direct Greek and orientalizing influences already in the seventh century, and probably via Apulia and Adria. It is on some such route that a place might be found for some of the bronzes in Greek style or with Greek motifs already discussed.

Another feature of the Alpine situlae worth stressing is their extreme homogeneity in style. Lucke made some attempt to group the situlae by style and other scholars have remarked pairs by the same hand. Such close correspondence argues works produced at very much the same time, but we have also to allow for early and late work by the same artist, and for the differences between his masterpieces and his stock production. Bearing this in mind, and the isolation of this group in the whole record of metal-work in this region, it becomes apparent that for most of the situlae a very few artists need have been involved. The major group – let us call it the Providence Group after the situla which has attracted most attention recently – comprises the following (I give the Lucke-Frey numbers and their sobriquets): nos. 1 (Providence), 6 (Castelvetro mirror), 9, 12, 15, 17 (Brezje belt), 21 (Vienna Magdalenenburg situla), 29, 30, 33 (Vače situla), 34, 35 (Vače belt), 37, 42, 44 (Welzelach situla), 45, and an example from Montebelluna.<sup>34</sup> Many of these might be by one man, and there are several others, poorer in style, which may be from his workshop: nos. 2, 8, 10, 11, 13, 14, 16, 18–20, 22–26, 32, 36, 38, 39, 41, 43.<sup>35</sup> Apart stand no. 4 (Certosa situla) and no. 27 (Magdalenenburg belt) for their style and, apparently, their technique, with incised rather than traced details; and no. 40 (Kuffarn situla) in a rather wilder style.

In the circumstances there seems no good reason to think that the Alpine situlae were being made over a long period. They might be accounted for by the working life of one artist and his associates – possibly much less than fifty years. We might even attribute the inception of the group to the invention of one man, who was familiar with the decorative bronze-work of Este, but aware of styles and subjects which went far beyond the repertory of the Este studios, and capable of expressing his own observation of contemporary life. If this is true, or even nearly true, the problem of the relative dates of the Benvenuti situla (from Este) and the Alpine situlae becomes acute. The dating of the former to the years around 600 B.C. depends

on its associations and its position in the series of Este bronzes. Of the Alpine situlae nos. 4 (Certosa, Bologna) and 29-31 (Nesazio, south Istria) were found in the company of imported Athenian vases of poor quality, made about 500 B.C. But both these finds are at some distance from the homeland of the situlae, and the bronzes, which must have travelled because of their worth, may well have enjoyed a longer career above ground than the Greek vases. The Etruscan features which the situlae share with the Este bronzes, and most other orientalizing, Greek or local motifs, derive from models which do not long survive the start of the sixth century, as Frey has shown, explaining this phenomenon by earlier and lightly attested contacts enjoyed by the Alpine area. The broader argument (Lucke's) that the scenes of husbandry and relaxation depend on Greek models which first appear regularly on vases in the third quarter of the sixth century need not be upheld in detail, since we have the bronze from Boeotia with the herdsman in the seventh century, and must be able to allow something to native invention. Of decorative details we may observe that the Castelvetro mirror (no. 6) copies an Etruscan mirror type which is hardly earlier than the late sixth century.<sup>36</sup> The linked bud pattern on situlae also looks as though it might be later. It appears on two situlae with only animal friezes (nos. 24, 37; fig. 24: a, b) and on the Kuffarn situla (no. 40) which seems to be in a wilder style than the main group, and includes racing chariots (fig. 25) which are also best matched in the second half of the sixth century in Etruria. But the most explicit and Greek-looking version of the bud motif is seen on the Arnoaldi situla (no. 3; fig. 24:c),

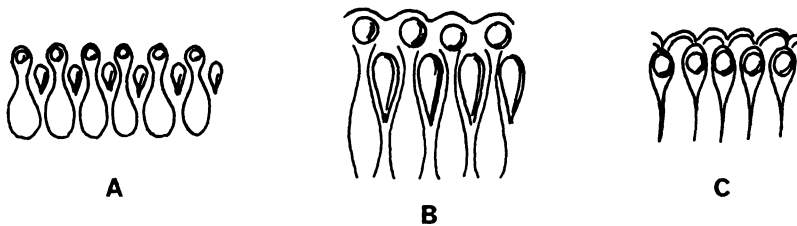


Figure 24. Bud patterns from Alpine situlae, Lucke-Frey nos 24, 37, 3

rightly assigned to an Este workshop by Frey. This was from a tomb with a double burial, accompanied by Greek vases dated around 500 B.C. and around 400 B.C. Although the situla is usually placed with the later group it might more happily go with the earlier. It carries racing chariots which seem to parody the Kuffarn situla. But if this is a clear example of an Este situla copying the Alpine we are left still with the earlier Benvenuti situla and, as we have seen, it would be difficult to argue that any of the Alpine situlae, as known at present, can be so early. The problem of the relationship between the Este and Alpine series in the early stages remains unresolved.

It remains only to discuss a selection from those motifs on the Alpine *situlae* and related bronzes which find their parallels, or seem to find them, in the arts of the Mediterranean countries.

The use of two decorative features, the linked buds and the cable, has already been noticed. It is remarkable how little variety of decorative detail is borrowed, apart from the Etruscan vegetable ornament which appears in subsidiary positions in the field or on the borders of friezes, and which may derive wholly from the Este tradition. There is some copying of southern metal-work patterns, as on the Castle-vetro mirror (no. 6) or the tongue frieze on the Magdalenenburg lid (no. 26).

The armour and weapons reproduce local types, but chariots can have been little seen in the Alpine passes, and for these a version of the Etruscan chariot is shown. The more practical carts are local, with their engaging animal head attachments. The friezes of racing chariots seem to derive directly from Etruscan models, but details of the chariots may be northern. The charioteers (and horsemen) are given tall pointed caps on the Kuffarn *situla* (no. 40, fig. 25) and these are copied in Este on the Arnoaldi *situla* (no. 3). They may well derive from the hats worn by Scythian horsemen who appear frequently on bronzes and vases in Etruria from the mid-sixth century on, but Scythians do not drive chariots.

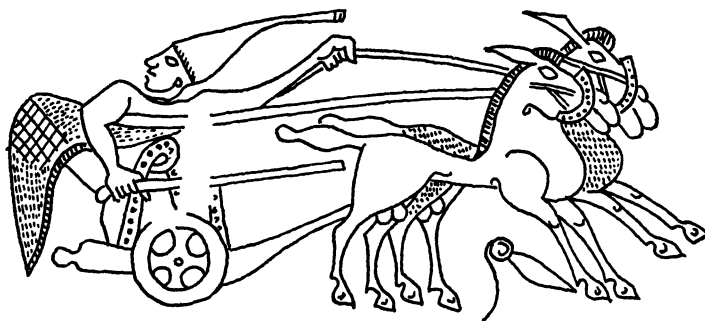


Figure 25. Detail from Vienna 17.036, bronze *situla* from Kuffarn, Lucke-Frey no. 40

The greater part of the other trappings on the figure scenes on the *situlae* can only be explained in terms of local fashion—the furniture, including the couches with their turned wooden legs, and especially the musical instruments. These include the *syrinx* with graduated pipes, appearing at a time when in Greece the instrument is shown with pipes of equal length,<sup>37</sup> and strange asymmetrical lyres (fig. 26: a-c) which find their closest kin in Minoan Crete (fig. 26: d, e)<sup>38</sup>—an illusory parallel, although on a Cretan shield of the seventh century there is part of what could be a similar lyre (fig. 26: f).<sup>39</sup> The popular boxers belabour each other with knuckle-dusters in the form of small dumb-bells (pl. 16). These have been much

discussed<sup>40</sup> and are generally rightly taken as evidence for a rather brutal local variant on the sport. They may have been known about farther south too, since on a 'Pontic' vase in Reading of the mid-sixth century, from an Etruscan workshop inaugurated by Greeks, we see on either side of the neck the upper half of a Gorgon brandishing two such weapons (pl. 17).<sup>41</sup> This looks like an isolated example of

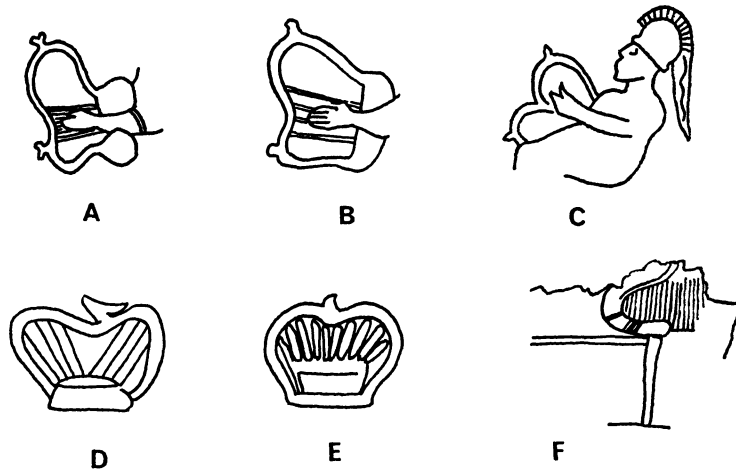


Figure 26. A, B, C, lyres and a lyre-player from Alpine situlae, Lucke-Frey nos 1, 4, 22; D, lyre from a Middle Minoan seal, after *Charisterion*. . . . *Orlandou* 3, 218, fig. 8.2; E, lyre from a Middle Minoan seal, after *ibid.*, 219, fig. 9.1; F, stringed instrument (?) from a bronze found in the Idaean Cave, Crete, after Kunze, *Kretische Bronzereliefs* pl. 44. 71 bis

influence from the north. It has been observed that centaurs in Etruscan art sometimes carry strangely elongated rocks – the centaurs' usual missile – with knobbed ends,<sup>42</sup> and it might be that this unnatural form also owes something to the northern pugilists.

The scheme of decoration on the finer situlae, with the figure frieze above one or two friezes with animals, most probably derives from the practice common on Greek vases, especially the Corinthian and Attic black-figure which were well known in Etruria, but much the same scheme appears on our bronze, pl. 12–13. Some have thought to see in their decoration a deliberate antithesis between portrayals of the arts of War and of Peace,<sup>43</sup> and again Greek antecedents have been invoked. It is very doubtful whether in Archaic Greece any such effect was sought, and on the situlae it depends very much on how the scenes are interpreted. There are warriors, but no fighting, and instead they parade, taste wine or play music. It would be in keeping with Greek practice if the contiguous scenes had in fact no close connection in purpose or narrative, and less sophisticated artists might follow this fashion and juxtapose various stock or invented groups as we see them on the situlae. There is

certainly no regular association of separate scenes, and the significance of each may perhaps be considered in isolation. Only one of these scenes is discussed here – the erotic.

Scholars have generally shirked serious discussion of the scenes of love-making in Situla Art,<sup>44</sup> but this activity has its iconographic conventions like any other, and it is after all an act of some significance, whether the intention is pleasure, display, procreation or cult.

On the Castelvetro mirror (no. 6), the Sanzeno situla (no. 15, here fig. 27), one from Montebelluna<sup>45</sup> and perhaps another which is fragmentary (no. 30d) a couple are making love, the man above, on a couch. On a belt fragment from Brezje (no. 17; pl. 15) the woman is seated on a chair and the man kneels before her. If these are cult acts there is certainly nothing to indicate it, and it is easier to regard them as purely

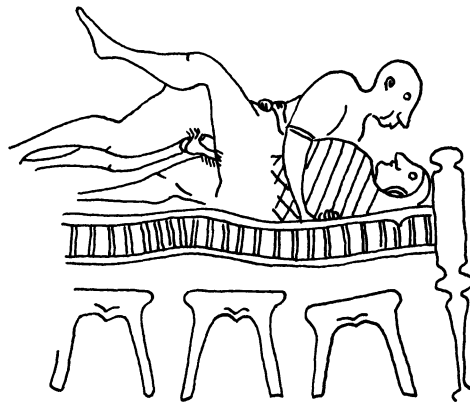


Figure 27. Detail from Innsbruck 16.700, bronze situla from Sanzeno, Lucke-Frey no. 15

secular. It might seem natural, then, to take them for a further demonstration of the influence of Greek 'genre' scenes which are fairly common on Attic vases from the mid-sixth century on, and to which other features of the situla friezes have sometimes been attributed, perhaps wrongly. Several things about the situla representations are non-Greek, and non-Etruscan, and so can only be explained as a reflection of local custom. First, the position on the bed – man above, what would today be considered 'normal'; and secondly the use of a bed or at least the depiction of it. Although anthropologists tell us that the change from love-making from behind, to love-making face to face, is an early feature of man's development as an upright biped, the vast majority of early representations show the position from behind, or, if face to face, then standing. For days before the common use of mattresses<sup>46</sup> this preference is very understandable, and it is true of all Archaic Greek representations<sup>47</sup> until the sixth century, when a rich repertory of sexual gymnastics is shown on vase-painting and in other arts. But still the prone position, man above, is exceptionally rare,<sup>48</sup> and

is not even shown in the very few instances where a bed is used. Indeed, the beds are the *klinai* of a symposion, temporarily occupied for exhibition purposes.<sup>49</sup> Moreover, the use of a chair for love-making, shown on the Brezje belt, is unknown in Greek art except where the man is seated and mounted.<sup>50</sup>

In these scenes, then, as in others, the Alpine artists can be seen to have created an iconography of their own and applied it, with minor variations on stock themes, in a manner most close to that of Greek artists. In this respect their work is an extension of the Mediterranean tradition. Yet it is a measure of their independence that, unlike the Este bronzesmiths, they reject all else foreign except for subsidiary details, general composition and the technique, which had already been introduced in the area. Their depiction of habits in love-making may interest the anthropologist more than the archaeologist, but consideration of them leads us, finally, to another group of metal-work from beyond the borders of the Greek world, which can also tell something of Mediterranean and eastern influences. It is from Letnica in Bulgaria, and comprises gold and gilt silver plaques. The full publication has yet to appear but there are good illustrations in I. Venedikov, *Bulgarian Treasures from the Past* (1965) to which Terence Powell kindly drew my attention. Many of the plaques are in a crude, local, Thracian style remotely dependent on the south. One shows love-making—a warrior seated, mounted by a woman. Others show horsemen and animal fights and there is one with a barbarized version of the classical motif of a Nereid riding a hippocamp. In the same style a horseman is shown hunting a bear, while another lies dead below—exactly the scheme of the animal hunts shown in the Achaemenid art of Asia Minor and the Persian homeland.<sup>51</sup> Beside these is an ‘animal style’ plaque with a whirl of birds’ heads, which looks straight to Scythia, and finally, a fight between a lion and a griffin, with snakes intervening. This matches rather the style of Greek work for Scythians on the shores of the Black Sea, the only strange features being the snakes and the choice of adversaries, for these predators of fact and fiction do not normally engage each other.<sup>52</sup> None of the models for this group is necessarily later than the fifth century. It is more variegated than Situla Art, but like it, it has much to teach of local taste, and of that trail, fascinating to the archaeologist, historian and iconographer, which leads from the Near East, via the arts of Greece, to within the borders of prehistoric Europe.<sup>53</sup>

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## Notes

- 1 Other recent studies of relevance are by Frey in *JRGZM* 13 (1966), 44ff., *Germania* 40 (1962), 159ff.; 44 (1966), 48ff., 66ff.; and with G. Fogolari in *Studi Etruschi* 33 (1965), 237ff., on Este chronology. N. K. Sandars, in *Prehistoric Art in Europe* 223–5, gives an excellent description and assessment of Situla Art.



- 2 Mrs Karouzou says that a compass was used to mark the wheels, but the 'centre points' look eccentric.
- 3 Only one major class of Archaic Greek bronze belts is known, and these are Phrygian/Ionian, with fibula-like handles. On these see the author's article in *Anatolia* 6 (1961), 179ff. and *Greek Emporio* 214ff. For an account of western belts see G. Kossack in *Präh. Zeitschr.* 34/5 (1949-50), 132ff.
- 4 The only possibility would be a situla with flaring base, like that from Eppan, Lucke-Frey, no. 2, pl. 11. The separate silver bands sheathing a wooden Etruscan bucket from Praeneste have rivets along the edges: H. Mühlestein, *Die Kunst der Etrusker* pls 21-2.
- 5 As on the Nikosthenes amphora, N. Gardiner, *Athletics of the Ancient World* fig. 155.
- 6 On the profile representation of chariot rails, which is not correct on Greek vases until the second quarter of the sixth century, see H. Payne, *Necrocorinthia* 310.
- 7 Cf. K. Kübler, *Altattische Malerei* pls 7, 12, 29 (for the one/two horse chariot in the early seventh century); pls 50, 69 (the horses); and often elsewhere.
- 8 Fully discussed in A. M. Snodgrass, *Early Greek Armour and Weapons* 58-60, and cf. his *Arms and Armour of the Greeks* 44f., 55.
- 9 *Ibid.*, pls 10, 11.
- 10 E. Langlotz's discussion in *Münchener Archäologische Studien* (1909) 410ff. is still most valuable. Compare the shield carried by the charioteer on the bronze, our pl. 13, top right.
- 11 E. Schmidt, *Persepolis* 1, pls 22, 25, 26; O. M. Dalton, *The Treasure of the Oxus* 13.
- 12 Of the sort shown in profile on the mid-seventh century vase, Snodgrass, *Early Greek Armour* pl. 15.
- 13 For Etruscan bronzes in Greece see E. Kunze in *Studies presented to D. M. Robinson* 1 (1951), 736ff.; a shield, *Olympia Bericht* 5, 40f.; and, it may be, a Villanovan belt from Eretria, J. Close-Brooks, *Bulletin of the Institute of Classical Studies, London* 14 (1967), 22-4, pl. 1.
- 14 In *Annali dell'Istituto* 52 (1880), 134f., pls H below and J.
- 15 *Kleine Schriften* 1 (1912), 443-5; and A. de Ridder, *Cat. des Bronzes de la Soc. Arch. d'Athènes* (1894), 138, no. 799 (534), with a most inaccurate description. A. G. Bather, *JHS* 13 (1892-3) 251. G. Brunn, *Griechische Kunstgeschichte* 1 (1893), 120f., fig. 83. H. Payne, *Necrocorinthia* 95, n. 1, 224.
- 16 Cf. the Early Corinthian vase (late seventh century), Payne, *op. cit.*, 127, fig. 45A, or the Proto-attic Kynosarges amphora, Kübler, *op. cit.*, pl. 57. But for this feature we might take the chariot to be the East Greek or Etruscan type with a curved front guard.
- 17 See above, n. 6. On the Melian Apollo amphora of about 625 B.C. the front rail of the chariot-cart resembles that on our bronze, P. E. Arias-M. Hirmer, *History of Greek Vase Painting* pl. 22.
- 18 Cf. K. F. Johansen, *Les Vases sicyoniens* pls 32, 34:1.
- 19 Payne rightly compared the Middle Proto-corinthian figures shown in Johansen, *op. cit.*, pls 22, 23.
- 20 A bowman is, however, prominent on the early sixth-century Dodwell pyxis, E. Pfuhl, *Malerei und Zeichnung* 3, fig. 192. For boar hunts see F. Brommer, *Vasenlisten zur griechischen Heldensage* 237ff.

- 21 E. Kunze, *Kretische Bronzereliefs* 159–62 and pl. 34. Mühlestein, *op. cit.*, pls 23, 24, silver scabbard from the Tomba Bernardini with cattle, sheep and herdsmen.
- 22 For the rather similar shepherds on a Pontic vase in Copenhagen see now T. Dohrn in *Bonn. Jahrb.* 166 (1966), 142 and figs 30, 31.
- 23 The comparable situation with eastern goldsmiths in Crete has been studied in *BSA* 62 (1967), 57ff.
- 24 For these see now H. V. Herrmann, *Die Kessel der orientalisierenden Zeit (Olympische Forschungen, 6)* 161ff., and especially 179f.
- 25 Boardman, *The Greeks Overseas* 84, pl. 4b.
- 26 The stand (Bernardini), Herrmann, *op. cit.*, pl. 75. The bees on Cretan vases: see J. K. Brock, *Fortetsa Patterns* 15h,s,t, and *cf.* l (the ‘bee type lotus’); on bronzes, D. Levi, *Annuario Scuola Arch. di Atene* 13–14 (1930–1), 60, fig. 14, pl. 14.2. For the rare use of bees as a decorative device on eastern metal-work see P. R. Moorey, *Iran* 5 (1967), 95.
- 27 *Fortetsa Patterns* 11y, ae, ah, ai for the strands; 11aa, ab for the eyes. For Cretan cables see also *Annuario* 10–12 (1927–9), 521, fig. 602.
- 28 Strands on nos. 1, 6, 19, 30, 32, 35 and *Germania* 44 (1966), 68, fig. 1. Eyes on nos 18, 27.
- 29 *Fortetsa Pattern* 11ad.
- 30 Isolated and rather primitive examples from Olympia, *Olympia Bericht*, 5, pl. 43.
- 31 Cretan armour, Levi, *op. cit.*, 57ff.; Boardman, *Cretan Collection in Oxford* 141–4; D. G. Mitten and S. F. Doeringer, *Master Bronzes from the Classical World* 45–50; *Olympia Bericht* 8, 196–207; K. Schefold, *Myth and Legend in Early Greek Art* fig. 5, pls 15a, 26; and a forthcoming book by A. Raubitschek and H. Hoffmann. Cretan cut-outs, *Cretan Collection in Oxford* 47f. Tripod legs and other bronzes, *Olympia Bericht* 5, 79–96; 6, 152–68; 7, 181–95; Schefold, *op. cit.*, pls 27b, 32c, 80.
- 32 E. Kunze, *Olympische Forschungen* 2 and *Olympia Bericht* 6, 74ff.
- 33 But the influence is not simply Etruscan and Alpine since the situla also shows bound captives being led, which is more an oriental than a Greek or Etruscan theme. However, they are being led by their bound hands rather than by collars around their necks, and the former practice can be illustrated in Archaic Greece, if only with Heracles and satyrs: P. Ducrey, *Le Traitement des prisonniers de guerre* 224, pls 10, 11.
- 34 *Germania* 44 (1966), 66ff.
- 35 Of these nos 19 and 32 go together, most like the main series; and we may group together nos 10, 22, 24 and 26, but to make further associations seems worthless.
- 36 Cf. I. Mayer-Prokop, *Die gravierten etruskischen Griffspiegel archaischen Stils* for the palmette and cable patterns on the disc and similar compositions.
- 37 On the instruments see Lucke-Frey, 19f.; and for the syrinx and lyres J. V. S. Megaw in *Studies in Ancient Europe* (Essays presented to Stuart Piggott, 1968), 340f., 351, where the influence of Greece is favoured.
- 38 Cf. N. Platon in *Charisterion . . . Orlandou* 3, 208ff., especially figs 8, 9.
- 39 Kunze, *Kretische Bronzereliefs* 216, pl. 44, no. 71 bis.
- 40 Recently by J. Jüthner in Pauly-Wissowa, *Realencyclopädie* Suppl. 9 1314ff.; and L. Franz in *Der Schlern* 36 (1962), 268ff.
- 41 *Corpus Vasorum Antiquorum*, Reading 1, pl. 37.1.

- 42 Cf. R. Bronson in *Arch. Classica* 18 (1966), 35, pl. 14.2; Boardman, *Archaic Greek Gems* 105 (the seal, no. 294, is in fact Etruscan).
- 43 S. Piggott in *PPS* 30 (1964) 438f.; and Sandars, *loc. cit.* above, n. 1.
- 44 Frey, in *Germania* 44 (1966), 69f., has some remarks on it and nicely observes 'wie das Bett entsprechend den Temperament der Liebenden Wellen schlägt'.
- 45 *Ibid.*, 68, fig. 1.
- 46 When Zeus makes love to Hera on the slopes of Ida a thick crop of flowers is conjured to raise them from the ground (*Iliad* 14, 347–9). The couple on a black-figure Northampton Group vase in Würzburg require a massive mattress cushion while the rest of the party, in various poses, need no furniture: E. Langlotz, *Griechische Vasen in Würzburg* pl. 17; G. Vorberg, *Glossarium Eroticum* 651 and cf. 544.
- 47 See the author's *Island Gems* 48, n. 1.
- 48 See note 46. It is, however, shown in Italy, as on the Tragliatella oenochoe, *Studi Etruschi* 3 (1929), pl. 26, and in a manner very similar to that on the situlae.
- 49 Love-making on klinai: black-figure – Vorberg, *op. cit.*, 4 (B. Graef and E. Langlotz, *Die antiken Vasen von der Akropolis zu Athen* 1, pl. 85, no. 1639), 486–8, 703 (Etruscan, *Arch. Anz.* 1917, 103, fig. 32), Athens NM 18658; red-figure – Vorberg, *op. cit.*, 42, 44 (*Corpus Vasorum*, Tarquinia 2, pl. 11:2), 408. The prone position and beds are shown more commonly in Mesopotamian scenes of sacral marriages (e.g., *Syria* 33, pl. 4.3) and cf. the Cypriot bronze bowl, *Opusc. Arch.* 4 (1946) pl. 5, which may be late and influenced by Greek scenes.
- 50 As *Corpus Vasorum Antiquorum*, Berlin 3, pl. 145.2, and Vorberg, *op. cit.*, 460.
- 51 As on the impression, E. Schmidt, *Persepolis* 2, seal nos. 33, 34; E. Babelon, *Coll. Pauvert de la Chapelle* pl. 3:17.
- 52 Examples appear on some Classical finger rings of Greek style from Syria, A. de Ridder, *Coll. de Clercq*, 7, pl. 20, 2867–8.
- 53 I am indebted to the National Museum, Athens, for the photographs used in pls 11, 12, 13, to Dr B. Kallipolitis for permission to use them, and to Mrs E. Touloupa for notes on the bronzes; to the Ashmolean Museum for the photograph used in plate 14; to Mrs A. D. Ure for the photograph used in plate 17; to Dr W. Angeli for the photographs used in plates 15, 16. Professor Frey not only kindly sent me proofs of his book on the Este bronzes, but read a draft of this paper and made useful comments on it, as did T. G. E. Powell.

eight

The construction of the fellow in  
Iron Age spoked wheels

*G. Kossack*



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While there is enough information about the construction of wheel-hubs, from examples which were cast in bronze or bound in sheet-metal, we are largely ignorant about the manufacture of the felloe and it has hardly ever been discussed. This is understandable since felloes were made of wood, only rarely bound with metal which like the hubs might have survived, and have consequently for the most part disappeared. Many important structural details – wheel form, axle construction, body-work and traction – have been studied from pictorial representations of vehicles known in Mediterranean or Near Eastern contexts. But the felloe, which was decisive for the stability and free running of the wheels, is for the most part unmentioned in descriptions of these scenes. In fact, only if a felloe has been preserved in ideal conditions, in swamp or permafrost, or been protected from the air, can we say anything definite about it.

One of the best-known examples is the four-wheeled wagon from the fifth kurgan at Pazyryk in Upper Altai.<sup>1</sup> The initial publication by S. Rudenko provides at least a general idea of the wheel structure. The felloes, 1.6 m in diameter and fitted with 34 spokes, consisted of two bent boards, 7 cm wide and, even after use, 5.6 cm thick. Their ends overlapped over 30–40 cm and were held together by wooden pegs and thongs. There were no iron tyres. The enormous size of the wheels, the numerous spokes and the treatment of the felloe seem, moreover, to be typical of wagons from the appreciably older and splendid Chinese burials, dating from before the end of the second millennium, of the late Shang and Chou periods.<sup>2</sup> On wheels of up to 1.4 m in height the rim was composed of two or more sections of bent board, secured at times by U-shaped metal clamps.

The origin and development of this characteristic construction cannot be discussed without reference to similar finds in the Transcaucasian kurgan of Lčāšen on Lake Sevan, excavated by A. Mnazakanjan during the fifties.<sup>3</sup> Alongside carts with two or four disc wheels he also found spoked wheels in three richly furnished chamber-graves, which in two cases could be reconstructed into two-wheeled vehicles. The wheels had 28 spokes and their diameter was again in excess of one metre. Unfortunately the number and dimensions of the rim sections cannot be gathered from the brief preliminary report. But there is a note to the effect that the

board will have been steamed into a curve and held together with wooden nails at the ends, which overlapped, as the photographs show. I do not think there is sufficient evidence to date this material before the turn of the millennium. Possibly it is later than the Chinese wheels, though certainly many centuries earlier than those in the Altai. The find reduces the isolation of the Far Eastern examples and suggests that the origin of this type of wheel construction is to be sought among central Asiatic cultures. However incomplete the evidence for its transmission, this hypothesis does seem to have some foundation.

Fortunately yet another type of Iron Age spoked wheel has survived, preserved in perfect conditions in the ground. This is the wheel with single-piece bent felloe and nail-less iron hoop-tyre of the La Tène period in central and northern Europe. While examples from La Tène itself can be studied only from description and photographs,<sup>4</sup> there is far better evidence in the two four-wheeled wagons from the Praestegårdmose bog near Dejbjerg in west-central Jutland, thanks to careful excavation and description by H. Petersen.<sup>5</sup> The 5 cm thick felloe is 95 cm in diameter, with twelve or fourteen spokes, and made from a single piece; the ends are bevelled and overlap (fig. 28:1). Near where the inner end terminates against the body of the felloe inside the wheel it was secured to this by nailing on a U-shaped joint-brace of ribbed iron (fig. 28:1a). The other, outer end was held by the iron tyre, which had been fitted while hot, without nails. Its running surface is comparatively wide (3.3 cm).

Presumably many other La Tène period wagon-wheels will have resembled those from Dejbjerg, as far as can be judged from the iron, which is almost always the only part to survive.<sup>6</sup> The age and origin of this type of wheel is another question. The search for its precursors has relied entirely on the joint-braces, which were characteristic of Dejbjerg. These are found on early La Tène war chariots (fig. 28:2), of which Somme Bionne (Marne) is the best-known example, though also on four-wheeled vehicles buried at the time of the Hallstatt-La Tène transition (Les Jogasses, Vix and Bell).<sup>7</sup> Finally, they have been long known in Etruscan contexts and among certain Hallstatt groups between the Mittelgebirge and the foothills of the Alps.<sup>8</sup> While F. Dvořák and P. Reinecke ascribed these attachments to the felloe, without asserting their precise function, W. Rest deduced from them the exact principles of the wheel's construction.<sup>9</sup> In his view there could no longer be any doubt that the clamps must always have secured the ends of a single felloe piece together (fig. 29). He was able to reach this conclusion only by referring to Dejbjerg, that is, by analogy. He ought instead to have considered what ratio is possible between the radius of curvature of a felloe-board, in a given type of wood, and its thickness. These are fixed ratios, which cannot be disregarded. The curvature which can be achieved, which depends on the structure and thickness of the wood, is a decisive factor in the diameter of a wheel-rim. The greater the diameter, the longer and therefore also the



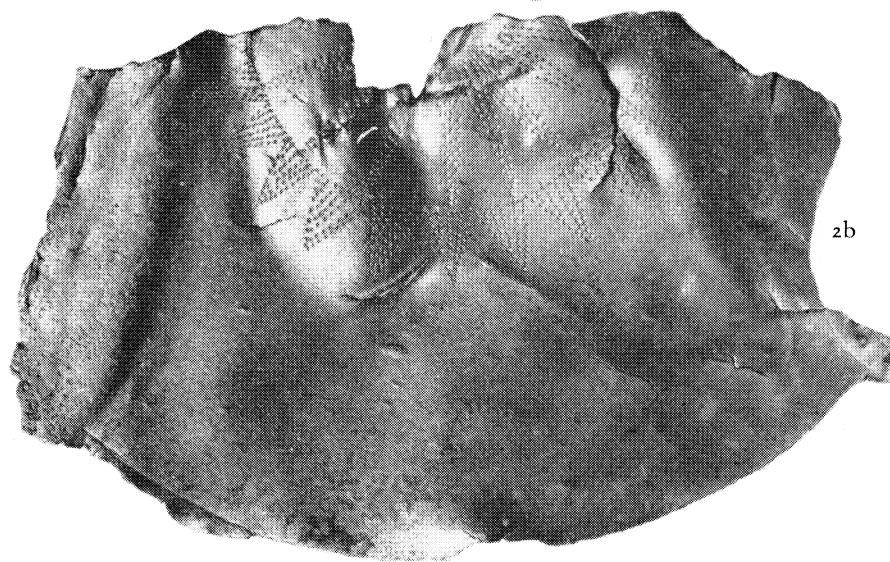
1 Bronze panoply from Dendra (Argolid), Greece (Courtesy of the American School of Classical Studies, Athens). Scale, about 1:6 $\frac{1}{2}$



2a, b Fragments of bronze  
breast-plate from Ducové (Okr,  
Trenčín), Slovakia (Courtesy of  
Dr Anton Točík, Nitra Museum).  
Scale, about 5:8



2a



2b



3 Bronze back-plate from Čierna nad Tisou (Okr. Trebišov), Slovakia (Courtesy of Dr Anton Tocik, Nitra Museum). Preserved height 41 cm; width 46 cm

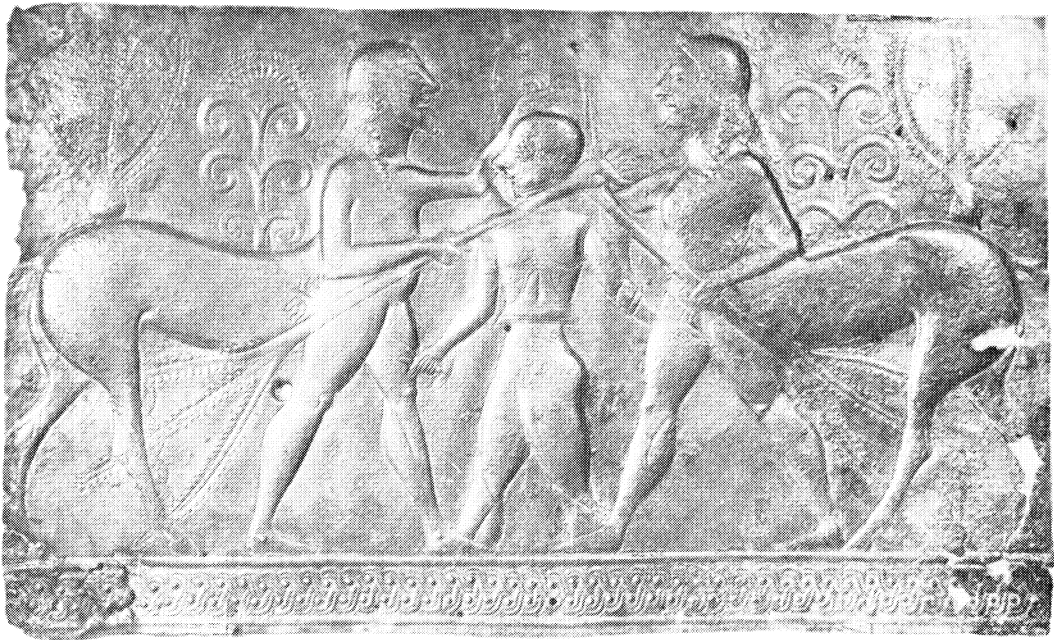
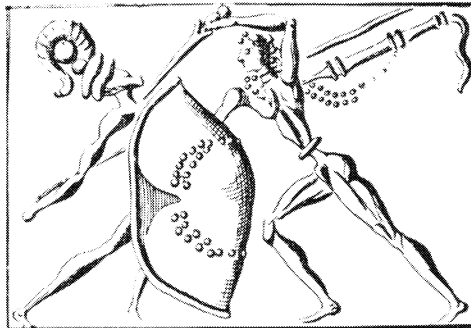


4 Bronze breast-plate from Argos, Greece (Courtesy of Prof. P. Courbin and the École française d'Athènes). Height 47.4 cm



5 Attic Late Geometric amphora (Courtesy of Buffalo Museum of Science, Buffalo, N.Y.). Total height of vase c. 70 cm

6 Gold seal from Mycenae,  
Grave Circle A, Shaft Grave III



7 Caeneus and the Centaurs. Bronze plate of the middle of the seventh century  
found in Olympia (Photo: N. Stournaras)

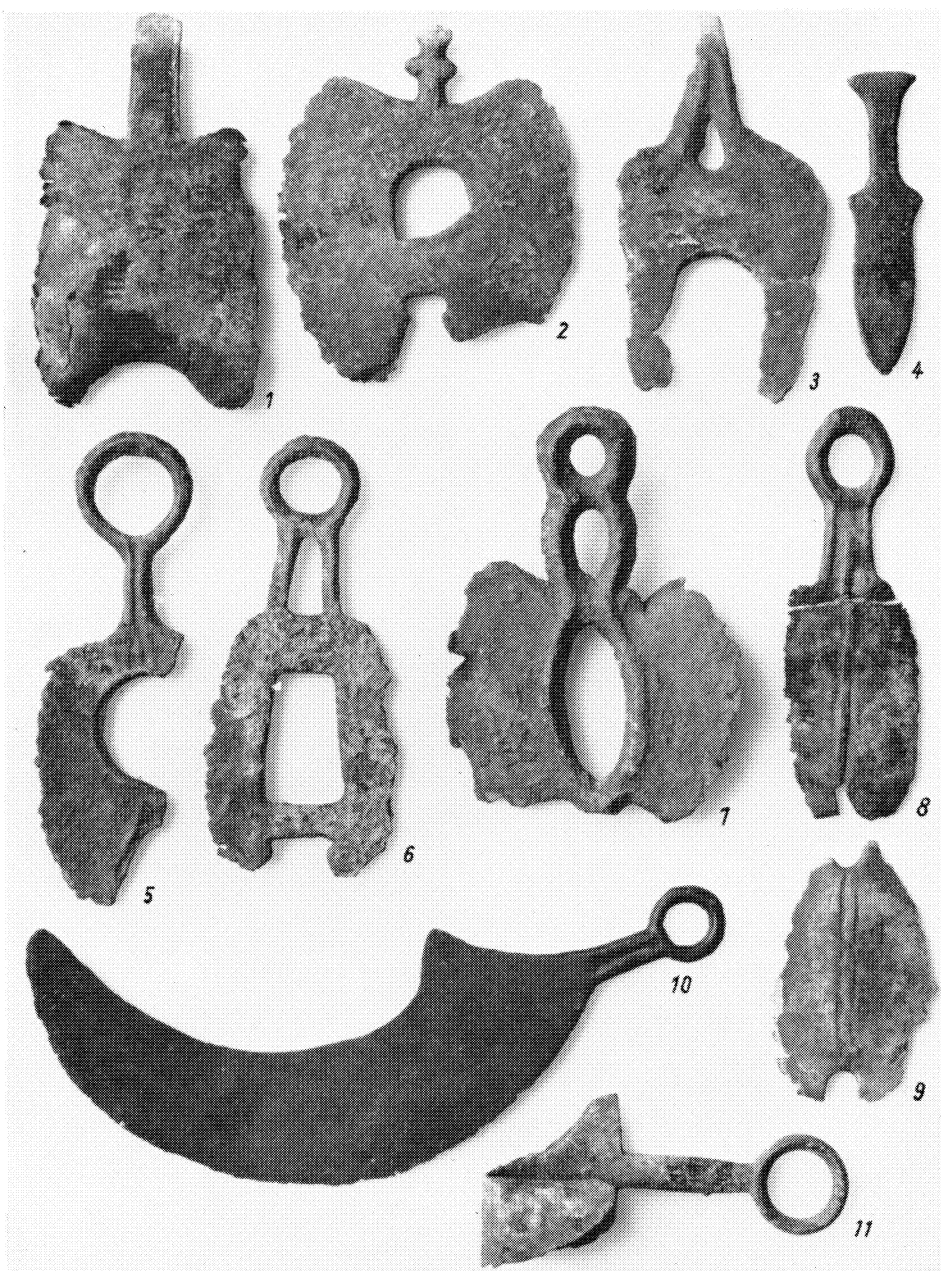


8 Fourteenth-century  
amethyst seal from a tholos  
at Koukounara



9 Thirteenth-century  
Chinese painting of  
Ogotai-Khan holding  
two naked swords (After  
Wells)

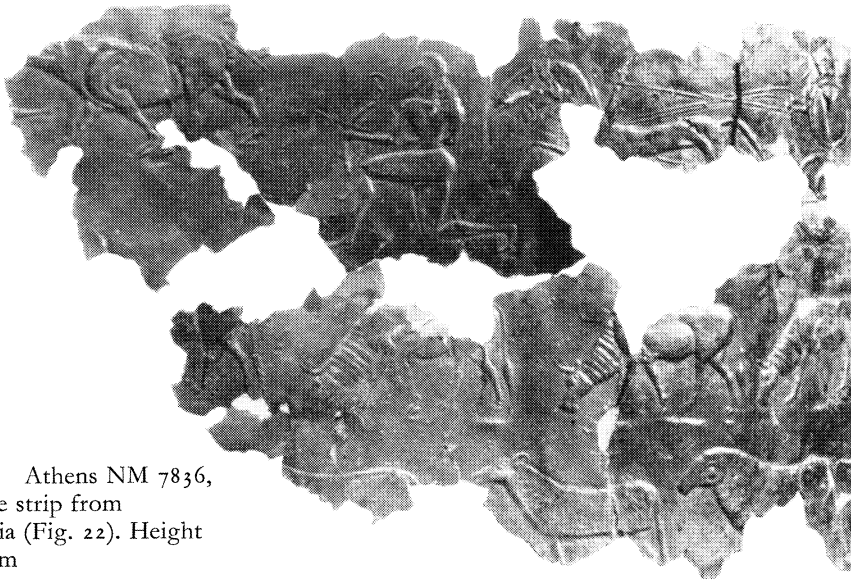




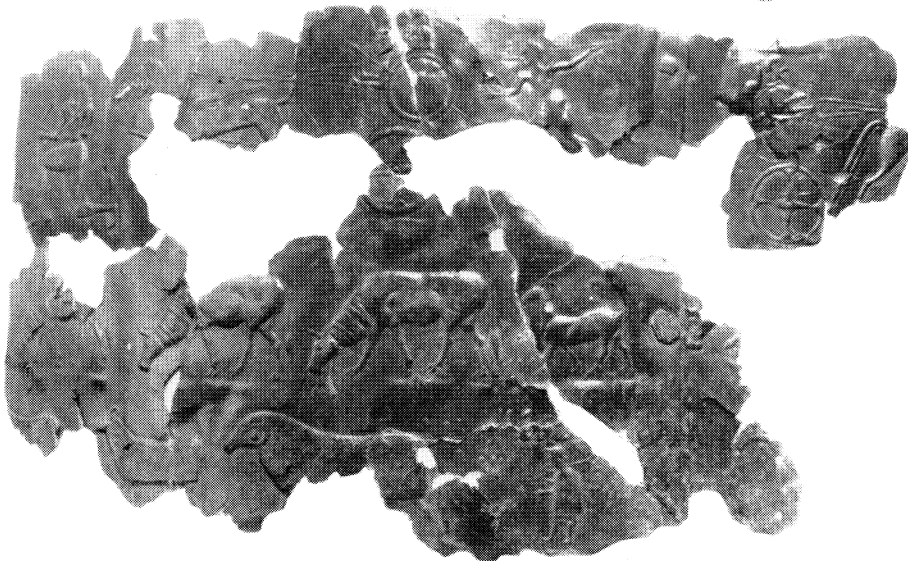
10 Bronze razors. 1, Find-spot unknown; 2-11, Piliny. Scale, about 3:4 (1-11: MNM)



11 Athens NM 16514, bronze strip from Arcadia (Fig. 21). Length 42 cm



12, 13 Athens NM 7836,  
bronze strip from  
Boeotia (Fig. 22). Height  
13.9 cm

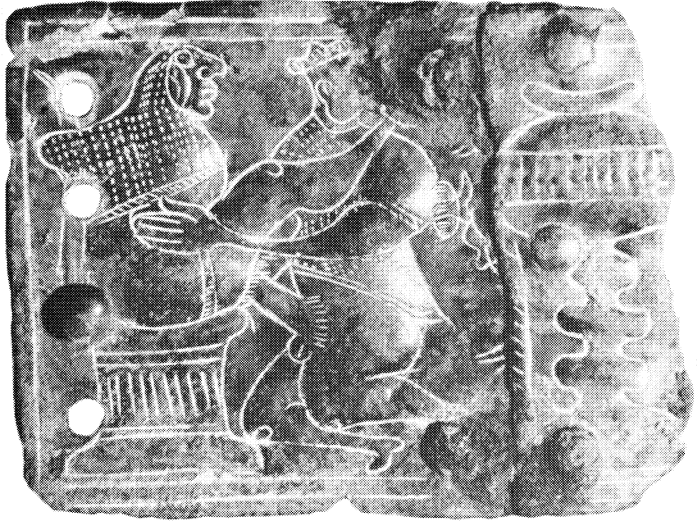






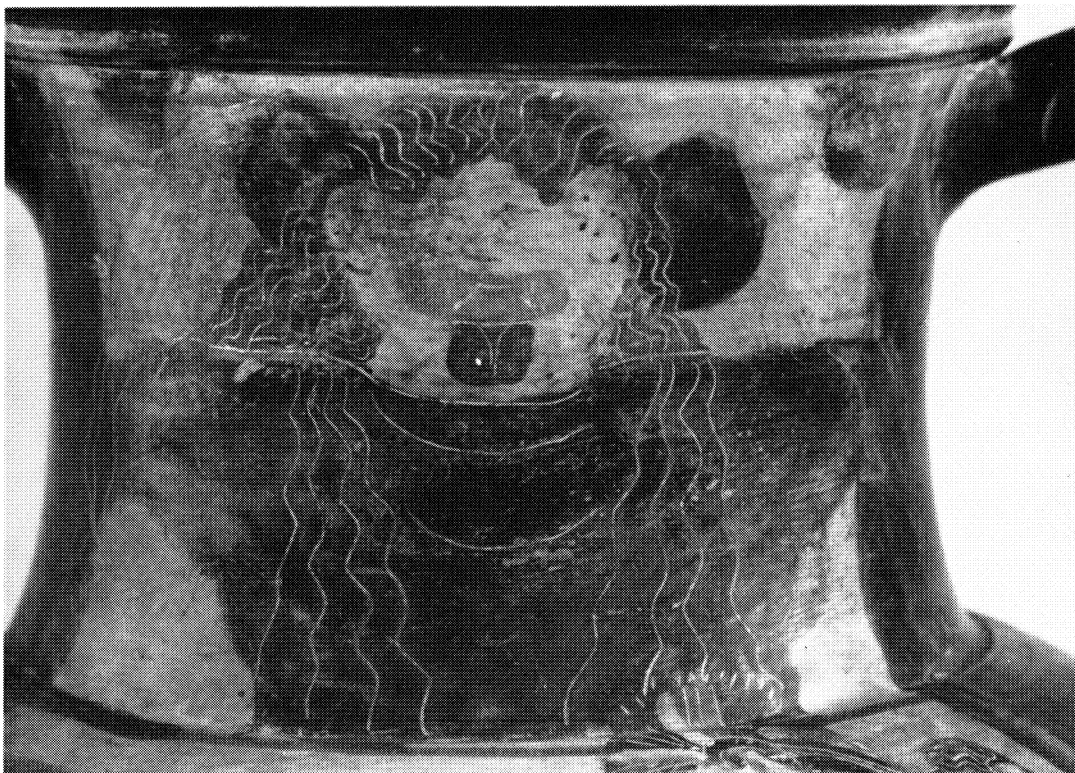
14 Oxford 1935.362, bronze situla from Vače, Lucke-Frey no. 34. Height 24.6 cm

15 Vienna 34.125,  
from Brezje. Bronze  
belt fragment,  
Lucke-Frey no. 18



16 Vienna 22.962, from Magdalenenburg. Detail from a bronze belt plaque, Lucke-Frey no. 27



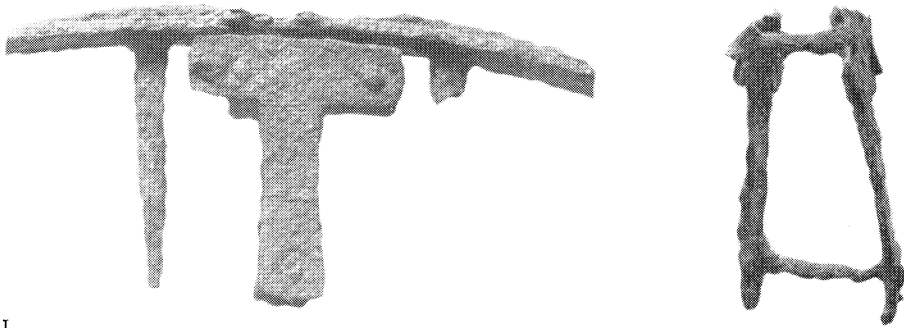


17 Reading 47, vi, 1. Neck of a 'Pontic' black-figure vase



18 Hradenín, Bohemia. Iron attachments from the wagon wheels. Actual size



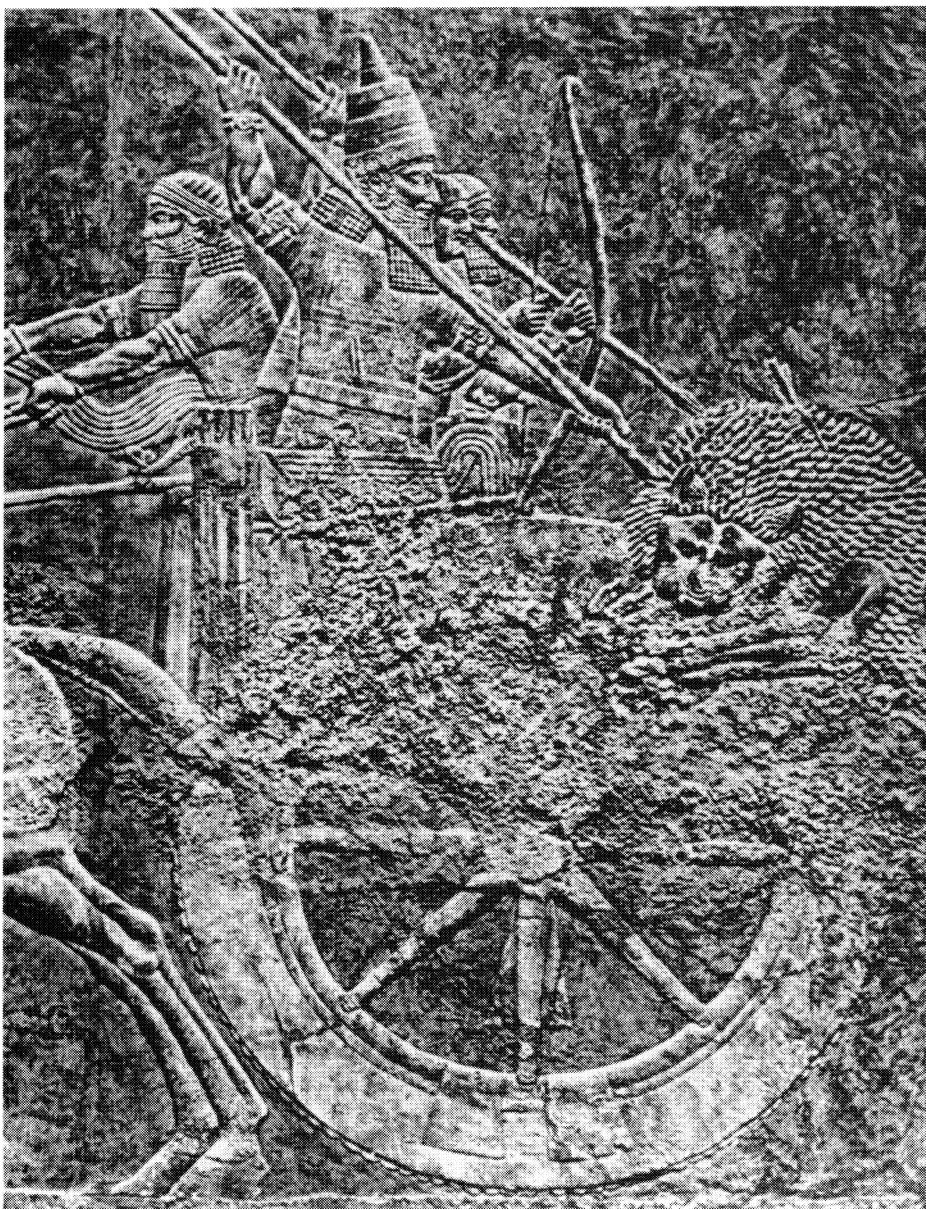


1



2

19 Grosseibstadt, Bavaria. 1. Iron attachments from the wagon wheels in grave 1.  
2. Their position *in situ*. Scale, 1:2



20 Nineveh. Assurbanipal lion-hunting. British Museum

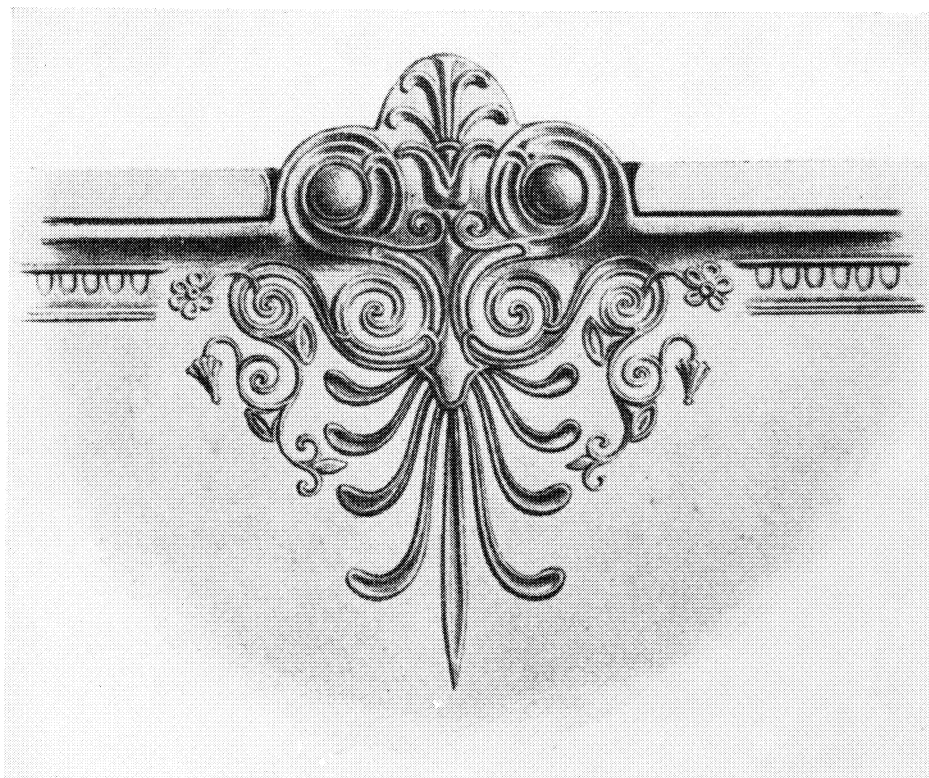


21 Waldalgesheim gold finds (Photo: Rheinisches Landesmuseum, Bonn)

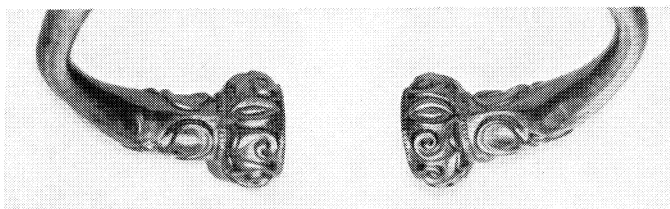


22a, b Details of the terminals of the large gold torc (Photo: Rheinisches Landesmuseum, Bonn)

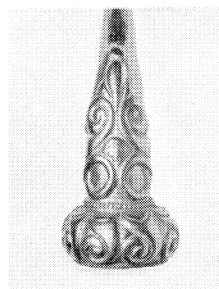




23 Late fourth-century Campanian bucket from Waldalgesheim (after aus'm Weerth)



a



b



c



d



e



f

24 Waldalgesheim gold bracelet (one of pair): a,b, terminals; c,e,f, median relief section; d, viewed from inside. After Jacobsthal, *Early Celtic Art*

a



b



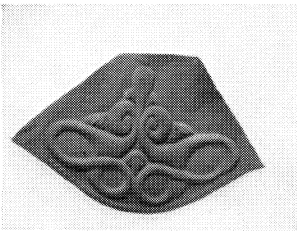
c



d



e



f



g

25 Impressions and details: a,e, Waldalgesheim gold torc; b,c,f, Waldalgesheim gold bracelet; d, Waldalgesheim bronze bracelet; g, gold torc from Oploty, Bohemia. After Jacobsthal, *Early Celtic Art*



26 Smaller of two silver beakers from grave-group, Dalboki, Stara Zagora, Bulgaria.  
Height 11.2 cm (Photo: Dept. of Antiquities, Ashmolean Museum, Oxford)



27 Silver beaker from lower Danube region. Height 18 cm (Photo: courtesy of the Metropolitan Museum of Art, New York, Rogers Fund, 1947)





28 Silver rhyton from Poroina, Muntenia, Roumania. Height 27 cm (Photo: Archaeological Institute, Bucharest)



29 Gundestrup cauldron: outer plate 'b' (Photo: the Danish National Museum)



30 Gundestrup cauldron: outer plate 'f' (Photo: the Danish National Museum)

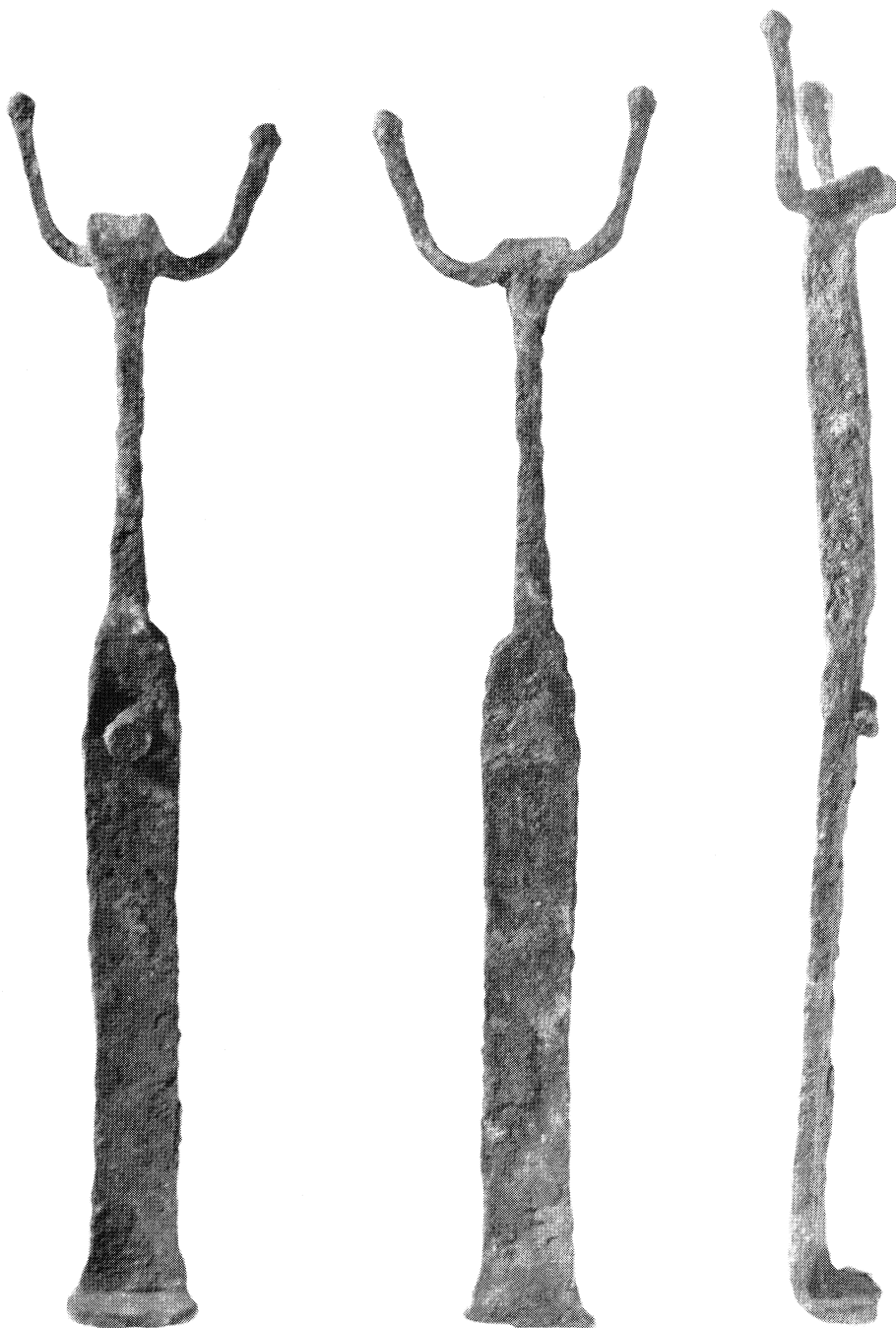




31 Gundestrup cauldron: inner plate 'D' (Photo: the Danish National Museum)

32 Bronze cauldron from Bölcske, Tolna, Hungary. Height 22 cm  
(Photo: the Hungarian National Museum)

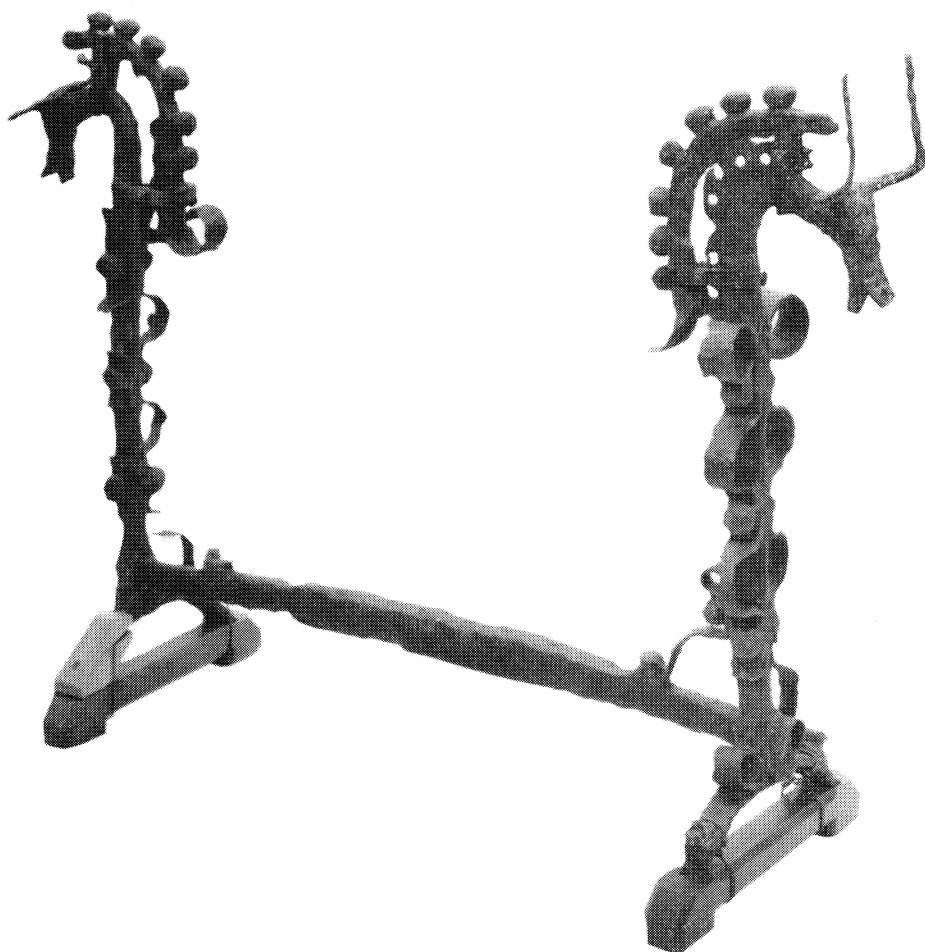




33 Stradonice: bull-headed upright. Height 28.5 cm (Narodni Mus. Prague; Photo: Zdeněk Hudera)



34 Barton, Cambs. Type A firedog. Height c. 65 cm



35 Capel Garmon, Denbighshire. Type A firedog. Height c. 75 cm (Photo: the National Museum of Wales)

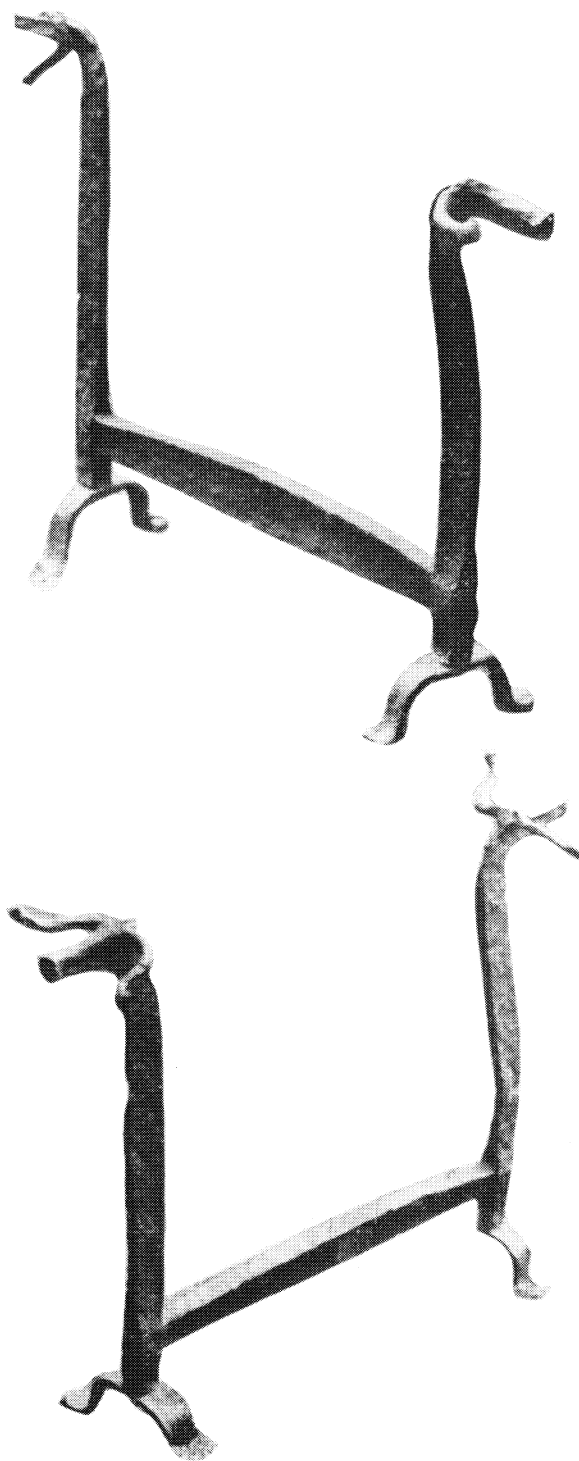


36 Capel Garmon, detail (Photo: the National Museum of Wales)



37 Mount Bures, Essex, detail

38 Iron firedogs in the  
Laon Museum. Height of  
both c. 55 cm



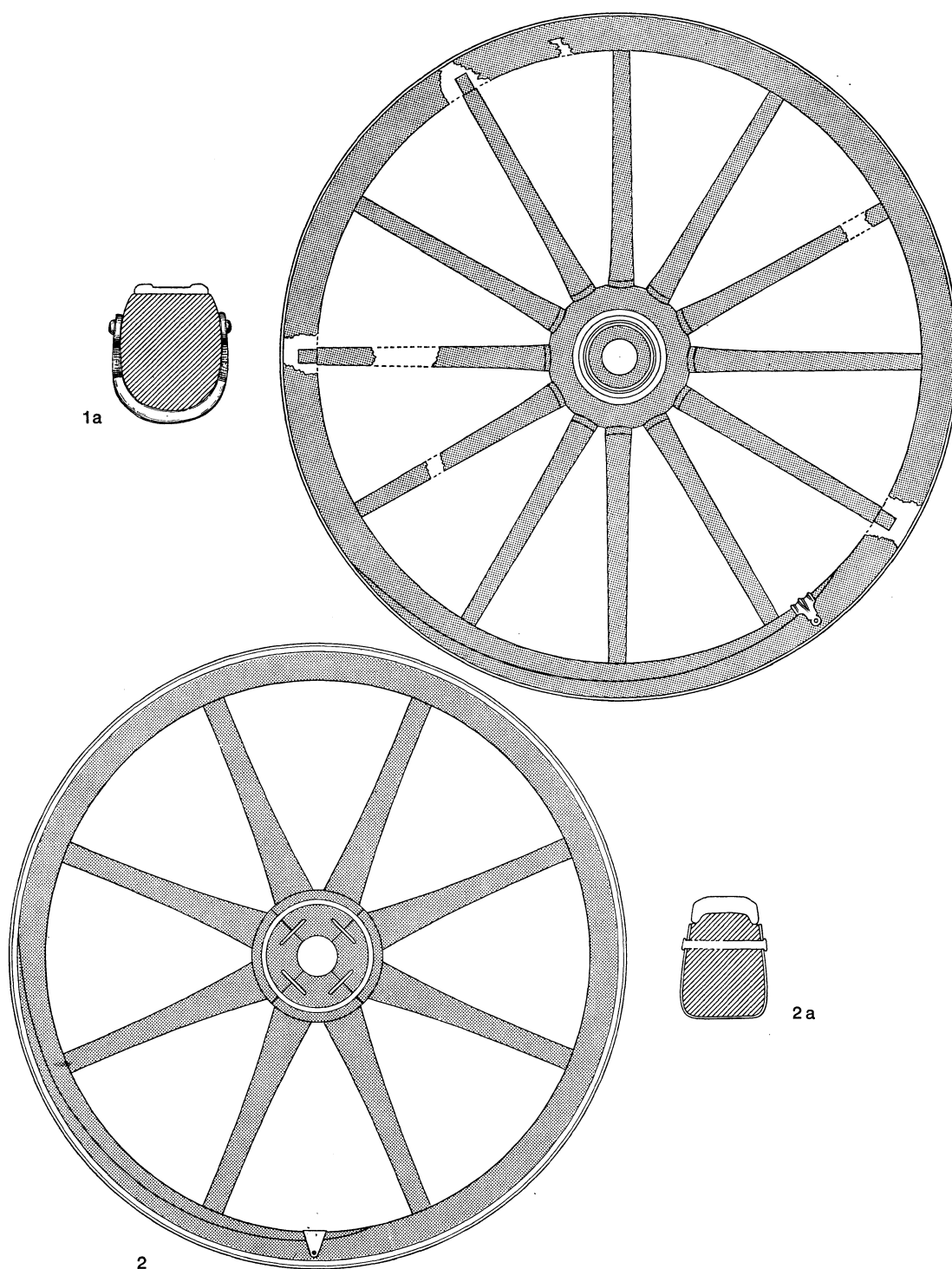


Figure 28. La Tène period wagon wheels. 1, Dejbjerg, Jutland (wood, iron and bronze)  
 2, Kärlich, Rhineland (wood and iron)  
 Scale: 1:9.5; 1a and 2a 1:2.8



thinner the board will be, to facilitate bending it, either by steaming or by mechanical means. This is presumably one reason why the Asiatic wagon wheels made with board felloes were so large in diameter, and then required a great number of spokes to achieve the necessary stability. Practical experience in a modern workshop, using mechanical devices, shows that for a wheel of 80–100 cm diameter the maximum

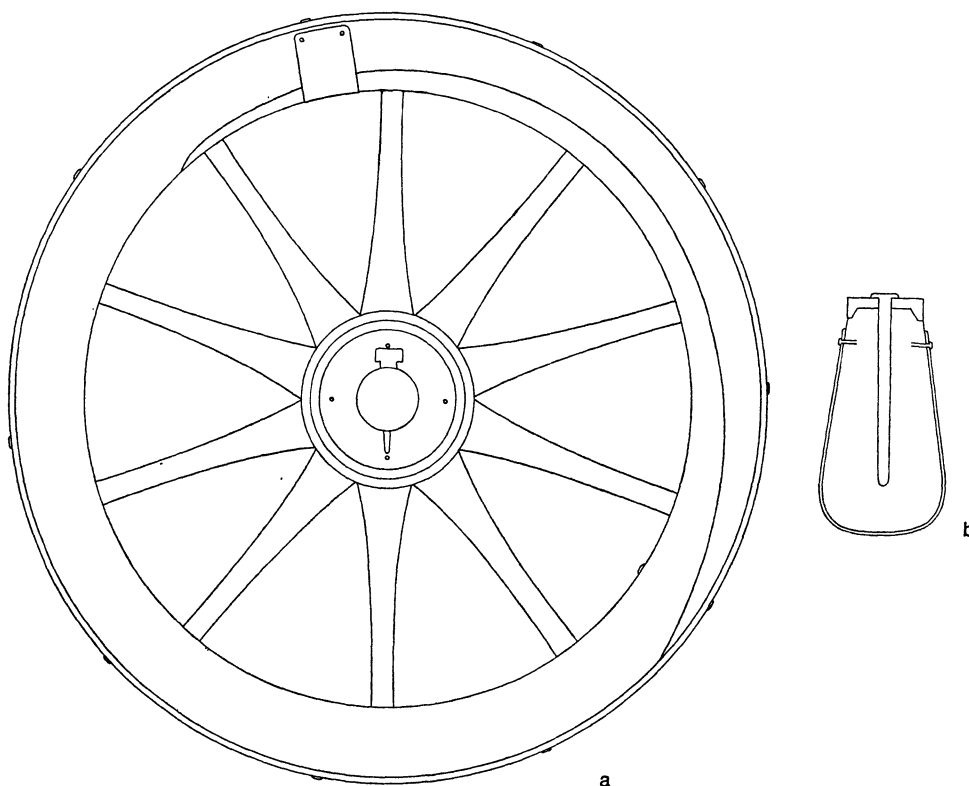


Figure 29. The wagon wheel from Bell, Hunsrück (iron and wood). Reconstruction after W. Rest

Scale: a 1:9.5; b 1:2.8

thickness of felloe obtainable is 6.5 cm.<sup>10</sup> With north European elm the proportion of thickness to radius reached 1:10, if modern methods are set aside.<sup>11</sup>

On these assumptions Rest's conclusions would be acceptable if he confined them to those vehicles in which the thickness of the felloe in a 80–90 cm diameter wheel was between 4–5 cm. As has been shown, they will no longer apply to all the La Tène wheels with an iron tyre, held on without, or with only a few, nails. On the wagon from Bell in the Hunsrück<sup>12</sup> the thickness of the felloe, to judge from the horseshoe-shaped attachment, amounted to just 8 cm, or double that of the later

wagons (fig. 29). On wheels from the earlier Hallstatt period (seventh century) felloes 8–10 cm in depth are by no means unusual, from the evidence of the attachments and also the length of their tyre-nails. These latter, with strap or rhomboidal heads, were driven into the tyre and felloe fairly close together (fig. 31:1a, 2a). In these instances, construction from a single felloe-piece, such as Rest and I myself<sup>13</sup> have argued, is quite out of the question. Other solutions must therefore be considered.

We may begin from the fact that on present evidence board felloes of any type were unknown in central Europe before the seventh century. This may be asserted fairly confidently, since the eighth century has yielded a considerable number of four-, five- or six-spoke bronze wheels (fig. 30:1) constructed on different principles. These can be dated from evidence from the latest Urnfield hoards.<sup>14</sup> The hub, spokes and rim are cast in one piece, with the felloe as a U-shaped channel, open towards the running surface. In quality these finds are comparable with the great bronzes of the classical world, and are extolled by every writer who describes them. In diameter they do not exceed 50 cm, though naturally the wheels were originally larger, since a wooden tyre of separate segments was let into the channelled rim. This tyre was secured by nails drilled through the rim sides, which could reach 7 cm in height. In only one instance so far has it been possible to determine how far the tyre protruded beyond the edge of the rim, and in this case it was 5 cm, giving a total wheel diameter of 58 cm.

Certain four-spoke wheels from Hungary are similarly constructed (fig. 30:2), though in this case their age is not known since they do not come from closed finds.<sup>15</sup> The wing-like strengthening of the spokes, where they join the felloe, occurs again on wheels from the beginning of the Urnfield period.<sup>16</sup> The number of spokes also suggests a similar, or even earlier, date. In fact the best parallel is found in the well-known frescoes of women driving a cart from the palace at Tiryns (fig. 30:4).<sup>17</sup> Here again, spokes and felloe are shown in one piece. Oblique bands on the shaft of the spokes and groups of vertical strokes on either side of their ends indicate binding, as J. Wiesner has convincingly proposed.<sup>18</sup> If this is correct, one must suppose that the felloe was made up of separate and contingent channelled sections, a structure which is verified in the bronze wheel from Árokajla in Hungary.<sup>19</sup> At Tiryns the running-surface is indicated by a wide ring of radial strokes, and was presumably of wood, either painted or mounted with pieces of metal, and probably set into the felloe in sections.

‘Double felloes’ of this sort are still represented in Late Geometric vase-painting from the end of the eighth century (fig. 30:3).<sup>20</sup> Admittedly, from the evidence of such paintings alone, one cannot assert that the wheels depicted resemble contemporary bronze wheels from areas of central Europe in all details. Nevertheless it is permissible to speak of a common type. The distinctive feature is the two-layer wheel-rim,

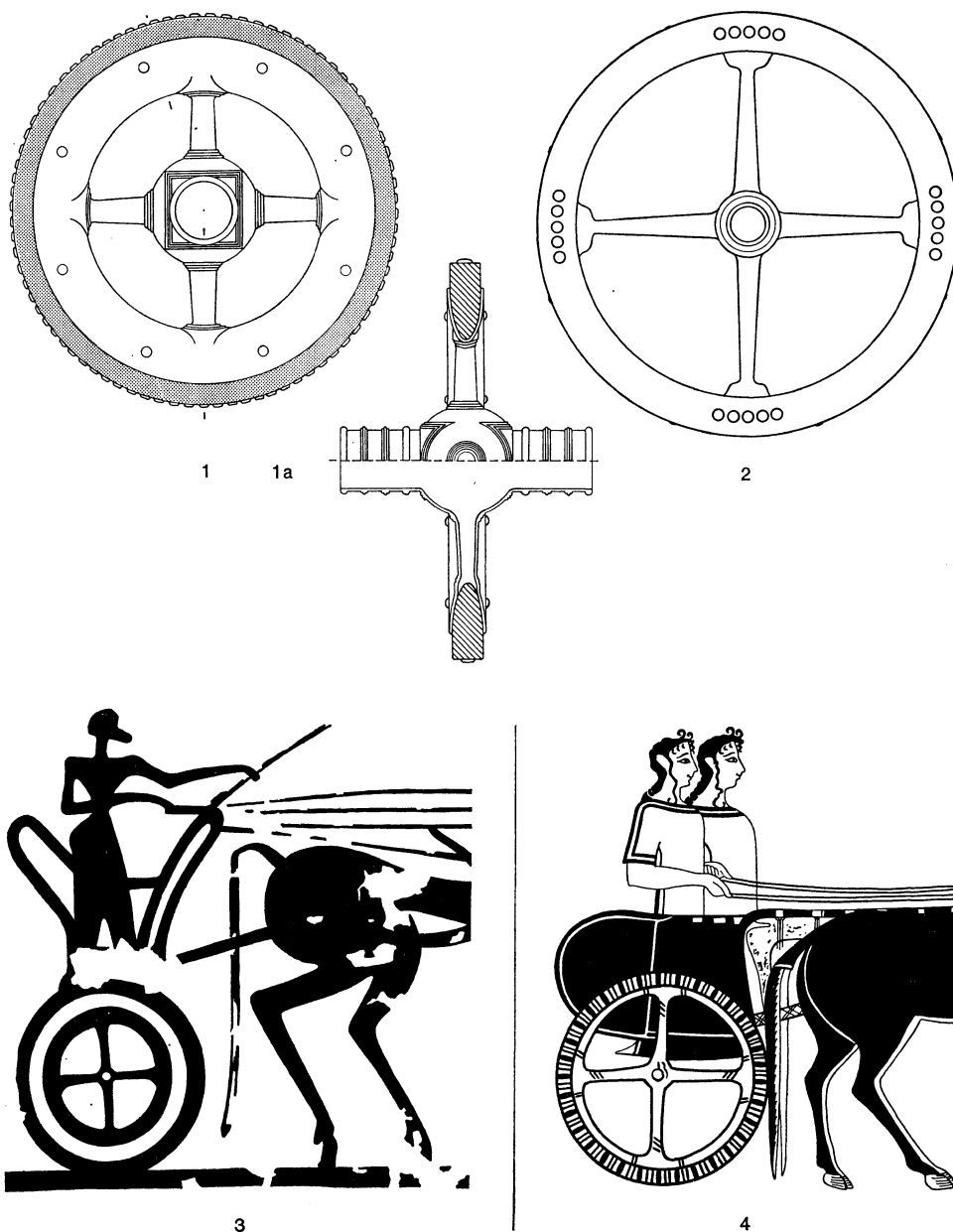


Figure 30. Wagon wheels from the Bronze Age and Urnfield periods. 1, Cortaillod, Switzerland (bronze with wood), reconstruction after E. Vogt; 2, Abos, Hungary (bronze); 3, Athens Agora (vase-painting); 4, Tiryns (fresco)

Scale: 1 and 2 1:9.5

composed of a bronze felloe with a wooden tyre as running-surface which, because of its depth, could only have consisted of segments. Furthermore, comparison with late Mycenaean and Geometric pictures of carts allows us to identify the central European bronze wheels as parts of vehicles for everyday use. As with many technically accomplished products, it has been queried whether these carts should be thought of as having any practical function at all, or whether they were confined to ritual uses. The development of this type of wheel, however, and its construction (solidity of the rims, strength of the casting and height of the wheels) present such strong arguments for employment on ordinary vehicles that its structural principles can with confidence be compared with wheels of the Hallstatt period, which were unquestionably utilized. Except in Etruria, where war chariots also occur, the carts in the graves were always four-wheeled wagons from the arsenals of contemporary nobles' courts, sometimes damaged, or certainly not new in condition, as examination of their parts will show. The fact that the deceased was conveyed to his burial place, and at times also laid out in the tomb, on the wagon, is of course not affected by these observations.

It was a technical innovation when iron tyres came, in most instances, to be nailed on to the felloe to form a running surface. The question is whether this method of construction could have developed indigenously from the channelled felloe, which is no longer found in the Hallstatt period and was evidently given up when wheels were no longer cast in bronze, or whether the whole form was an import into central Europe. It is so large a step that one is disinclined to think it evolved locally. But, even on this particular point, an informed judgement must proceed from a knowledge of technical detail, and from a general review of all the relevant material. If a single-piece felloe-board, as in La Tène wheels, is out of the question because of the thickness of Hallstatt period felloes, and yet wooden boards nevertheless did play a part in wheel-making, as is indicated by the U-shaped clamps, how is the construction to be visualized? Examination of the well-preserved U-shaped attachments (pl. 18:1, 3-5) from the Hradenín cemetery (Kolín) shows the line we must follow if further enquiry is to be based on precise inference.<sup>21</sup>

The sides of the attachments (pl. 18:1, 3) expand into ends of bell-shaped outline, terminating in a curve to fit against the edge of the iron tyre. They will therefore have been fixed close under the tyre. Their length, about 8 cm, and comparison with the length of their nails, indicates that they encircled the whole depth of the felloe. Thus their outline reproduces the form of the felloe section. With a tyre width of 2.5 cm and a free space 4-5 cm wide at the limit of their curve, this will have resembled a truncated pyramid. Traces of grain on the inner surface of the iron show the structure and direction of the felloe wood in relief (pl. 18: 1, 3). Over a length of just over 4 cm and oblique to the edges of the iron runs a rib, from which bands of

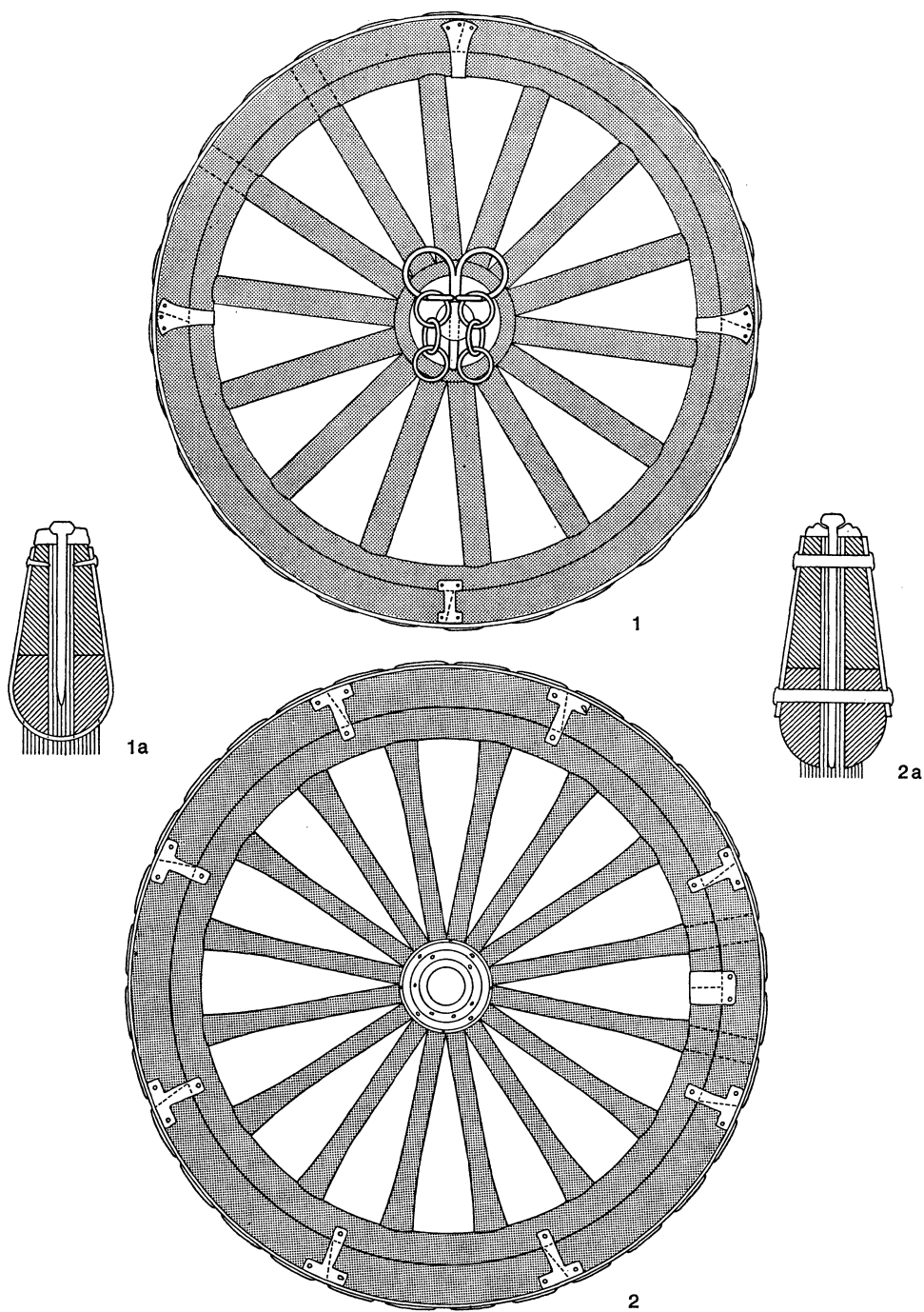


Figure 31. Wagon wheels from Hallstatt period chamber-graves. 1, Hradenín, Bohemia (wood and iron); 2, Grosseibstadt, Bavaria (wood, iron and bronze)

Scale: 1:9·5; 1a and 2a 1:2·8

grain diverge at an obtuse angle. This can only be the joint between two adjacent sections of the felloe. We must imagine them cut from similarly sized planks of wood, with similar horizontal grain. Following the curve of the wheel, the pieces abut at an angle, in such a way that their grain lines run parallel to tangents of the circle; according to the degree of end-bevelling, the joint-rib either divides the angle between the grain lines radially, or cuts it unequally. The fibres in the felloe pieces are then to be interpreted as chords of segments in the circle, so that the angle between any two abutting bands of wood-grain could tell us how many such segments there were, if they were better preserved and the angle, in consequence, more precisely measurable. However, what is decisive for a reconstruction of the felloe is a zone of horizontal grain lines which comes to an end at the joint-seam, and runs right across the inside of the attachment: for another board, of similar thickness and cut half-round at the base, must have been fixed beneath the felloe segments. Its structural line ran parallel to the wheel's circumference and served to press the segments centrifugally against the iron tyre. Unfortunately, we cannot gather from the Hradenín grain impressions whether it was bent from a single piece, as at Dejbjerg, or composed of several separate sections, as the evidence we shall consider below gives grounds for assuming.

In two assemblages of different age from the Hradenín cemetery Dvořák also found several equal-armed iron bands. Their position, by the same wheels, and their form and grain structure, confirm and amplify our theory. They form frames, each of two metal strips running parallel to each other and bolted together by sturdy nails at the corners of their terminal extensions (pl. 18:2). 6 cm long, they are shorter than the U-shaped attachments. Nevertheless the inner surface shows the same lines of wood grain, with the single difference that alongside a joint-seam of the same length (4 cm) the impression of horizontal fibres is less than half as wide as on the U attachments. These equal-armed joint-braces, accordingly, covered only the outer felloe segments over their whole depth, and the inner board, to which the lower terminal was fastened, only partially. Thus, while U-shaped attachments held the felloe sections and the inner board together as one unit, these other frames were meant to secure only the outer segments, their joint being reproduced in relief on the frames' inner surface. Not only are they different in position, but also in number. From grave 46 (fig. 32) Dvořák mentions two horseshoe-shaped attachments by the front wheels and three by the rear wheels, though in the grave plan he shows two only by the left front wheel and three by each of the others. Then on each side there is a further, single, specimen on its side between front and back wheels, apparently used as an axle attachment. He notes only one equal-armed felloe clamp by each wheel, and like most of the others this lay directly by the iron tyre. On each wheel two U-shaped attachments lie opposite to each other, while the third specimen seems

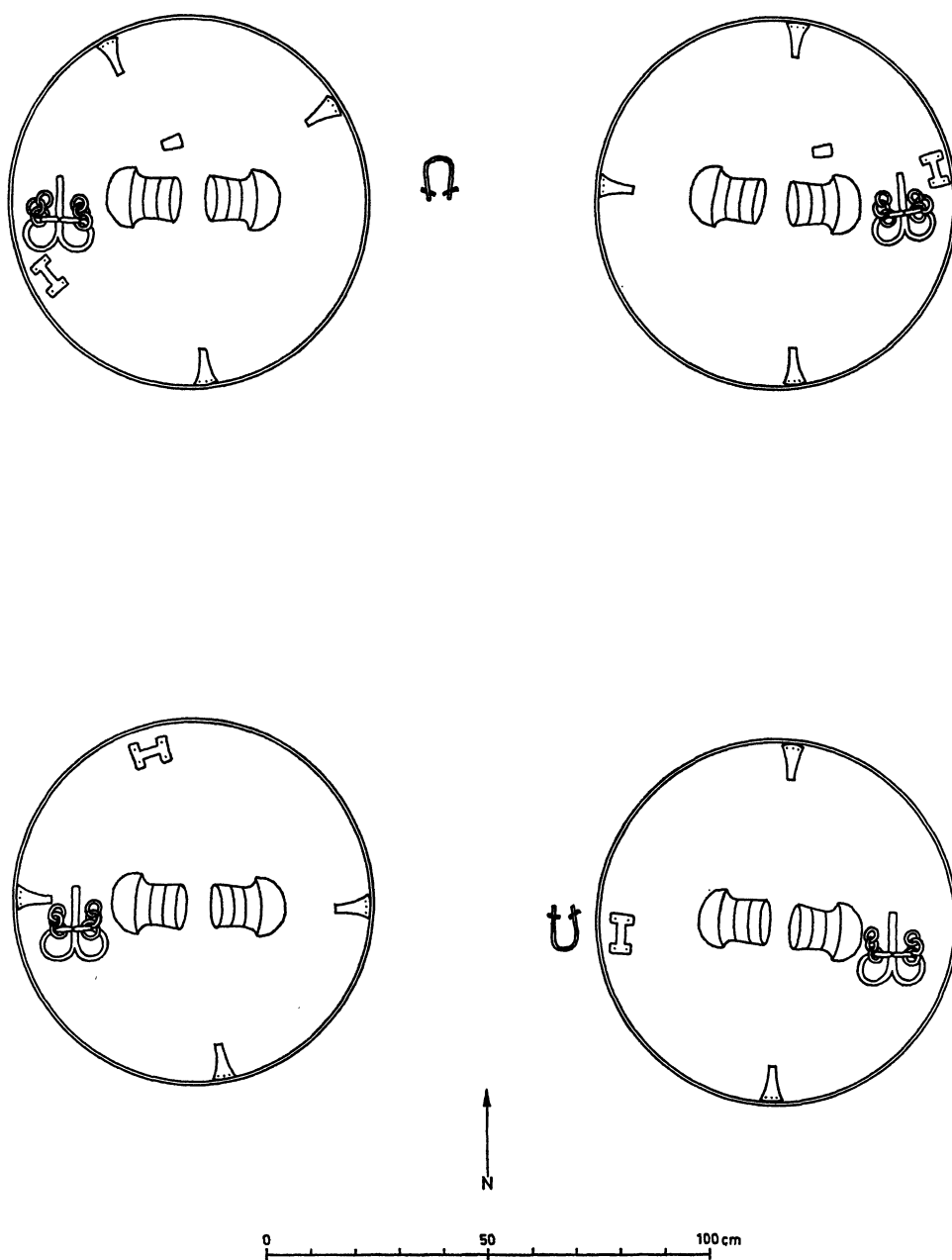


Figure 32. Hradenín grave 46, Bohemia. Part of the plan of the wagon wheels with fittings. After F. Dvořák

to have corresponded to the equal-armed frame. It is therefore very likely that the number of felloe segments and inner felloe boards was variable.

The spokes were inserted through both layers of the felloe. Their tenon ends abutted against the iron tyre, and at times an impression of them (3.3 cm by 1.1 cm) can be discerned on its inner surface. When there are several adjacent impressions their spacing, on a wheel of given circumference, indicates how many spokes there were. In one case it was fourteen, and thus many more than was usual in bronze wheels. The nails which secured the tyres likewise penetrated both layers of the felloe. Their heads (fig. 33 :4) were hammered out to a spindle outline, as was common at the time among many Hallstatt groups, among the Etruscans and even in the Scythian culture zone.<sup>22</sup> Although the nails were countersunk into the tyre, they constituted the actual running surface (fig. 33 :1).

Thanks to exceptionally careful excavation by G. Jacob-Friesen the equally old and similarly equipped grave 1 at Grosseibstadt (Lower Franconia) also provides excellent opportunities for reconstructing wagon wheels.<sup>23</sup> Horseshoe-shaped metal clamps were invariably combined with frames of T-shaped straps, the former always singly, the latter with up to five specimens for each wheel. Compared with Hradenín, their relative numbers are reversed, so that we may anticipate a change in their positions. The more numerous T-shaped iron bands (fig. 33 :2, pl. 19 :1) are 7 cm long and set as opposed pairs, in such a way that the distance between their feet is 2 cm wider than between the horizontal arms, where this corresponds to the width of the iron tyre (2.3 cm). The edges of the arms are slightly curved, cut to fit the rounding of the tyre. In the excavation they were in fact found still in their original position, directly against the edge of the tyre (pl. 19 :2). Thus the frames encased the trapezoidal section of the felloe. Traces of wood grain on the inner surface confirm this. They repeat the pattern of the Hradenín find: the fibres run horizontally in a 2 cm wide band across the base of the frame, but above this and on the arms they incline downwards to meet at an obtuse angle of between 120° and 136°, cut by an oblique rib (fig. 33 :2). Once again we have impressions of two distinct layers in the felloe, the outer composed of abutting pieces of wood, of which, to judge from the angle between the grain lines, there were six to eight, and fixed beneath them was a felloe board, with circularly-running fibres. The iron frames only partially covered this inner board, as can be inferred from the relative size of the U-shaped braces of bent iron, which were always used singly (fig. 33 :3). Though these leave a comparably wide space inside their curve, their sides are shorter than the T-shaped frames; their width at the top was correspondingly greater, and consequently they were probably nailed on at some distance from the edge of the tyre. Once again, traces of horizontal grain can be discerned on the inner surface, the same as those at the base of the frame-straps, except that on occasion there is here a further rib in the grain, running



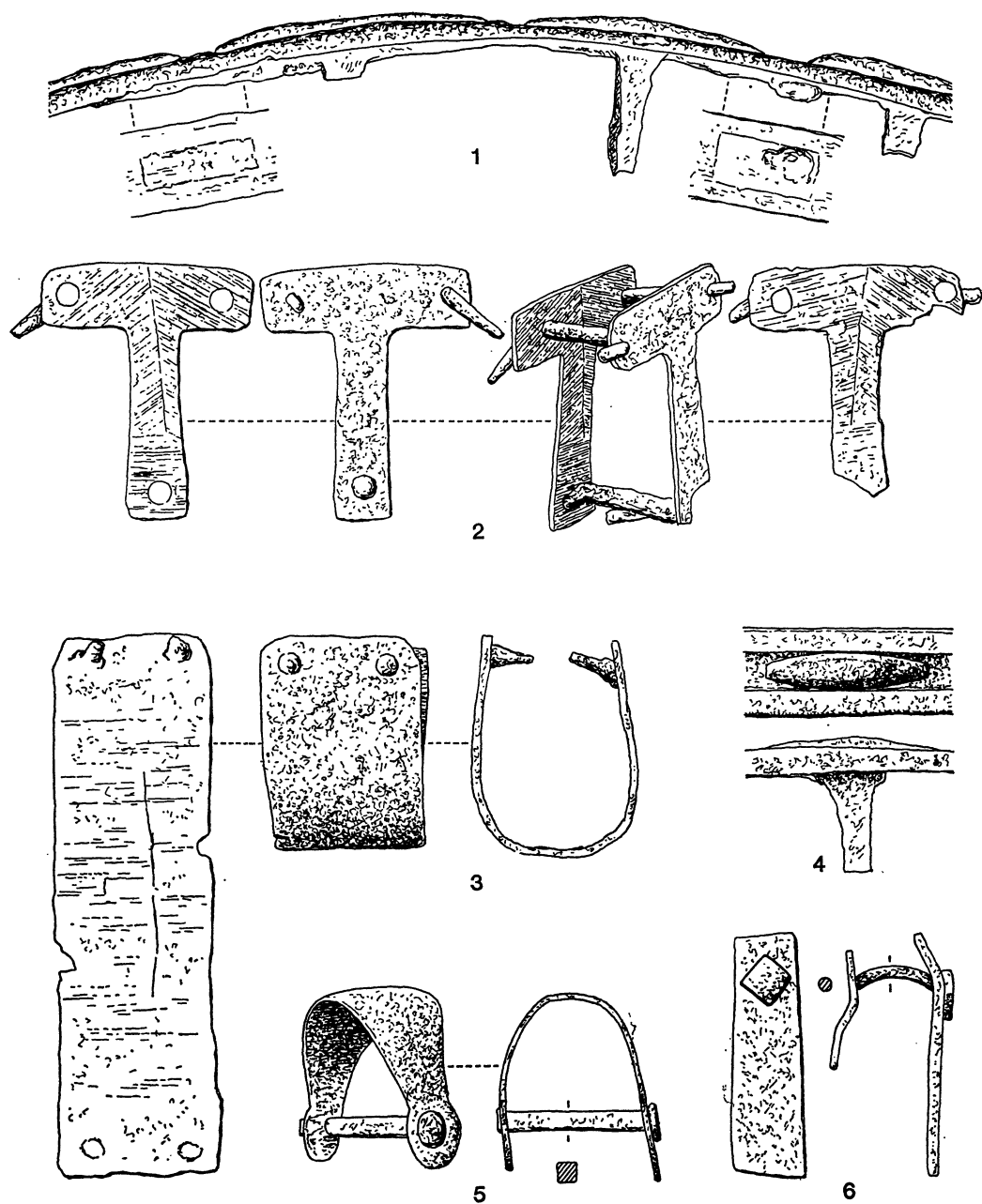


Figure 33. Iron attachments from wagon wheels. 1-3, Grosseibstadt, Bavaria; 4, Hradenín, Bohemia; 5, Salamis, Cyprus; 6, Krasnokutski, Ukraine

Scale: 1:2

parallel to the edges of the metal (fig. 33:3). This would indicate that the ends of the inner felloe board were not bevelled, but fitted against each other end to end, just as with the outer felloe pieces.

The spokes, again, are let into both layers of the felloe. Each left a rectangular impression (fig. 33:1) on the inner surface of the tyre between the felloe joints. The distance between these on a wheel of 83 cm diameter indicates there were sixteen spokes, two more than on the wheel described from Hradenín, which is otherwise similar in all important structural details, apart from the differing method of using the clamps. This variation could have something to do with the composition of the felloe board, which appears to have comprised several parts at Hradenín, while at Grosseibstadt it was one single piece (fig. 31:2).

Except in the Hallstatt culture<sup>24</sup>, I know no examples of the use of T- and U-clamps in combination, although both types are met elsewhere. Equal-armed clamps appear to be present in a late Hallstatt wagon in the Cà Morta cemetery in Como;<sup>25</sup> though how they were used does not emerge from the report of the find. The same can be said of a frame made of two iron bands set parallel, found together with other wagon parts from the Krasnokutski kurgan in the Dnieper valley (fig. 33:6).<sup>26</sup> Similar frames, though in this case made from rectangularly cut sheeting instead of narrow bands, have also been seen as having some connection with felloe construction in Greece, and the same may also be true of similar attachments from a wagon-grave in a Bologna cemetery.<sup>27</sup> However scanty the evidence may be, it nonetheless indicates what we may expect once more reports have been published. Furthermore, it indicates that the wagon wheels from Hradenín and Grosseibstadt, which are the only authentic reconstructions we have, need by no means be typical only of Hallstatt culture. Certainly it cannot be denied that this type of construction, which we encounter for the first time at the turn of the eighth to the seventh century, is something novel for central Europe.

Evidence for its origin is not wanting. V. Karageorghis has recently published reports on several wagons from the Cypriot necropolis at Salamis, part of a rich deposit of the late seventh century, found with horses, yokes, harness, weapons, bronze and pottery in the dromoi of either walled or ashlar-faced burial chambers.<sup>28</sup> Two wagons from graves 2 and 3, which are well preserved and therefore easy to reconstruct, are of especial interest. The vehicle from grave 2 has two eight-spoke wheels one metre in diameter, the felloes composed of several four-sided pieces of board. Their ends overlap in a stepped line and are bolted tight together by a pair of 6 cm long iron nails, driven in from the running-surface of the wheel. The spokes are tenoned and secured in the felloe by a pair of laterally inserted rivets. There is no suggestion of an iron tyre. The eight-spoke wheels from grave 3, 85 cm in diameter, are constructed differently. Here again there is a single-piece felloe board, possibly

with the ends cut in a bevel, and nailed together (fig. 34). But since its total thickness is 9–10 cm, the felloe must have been composed of two layers, as Karageorghis also supposes, though on different grounds. He noticed the clear imprint of a dividing line between a peripheral, outward-facing felloe piece and an inner one facing the axle. They were of the same thickness, but differed in width: the outer, 3 cm wide,

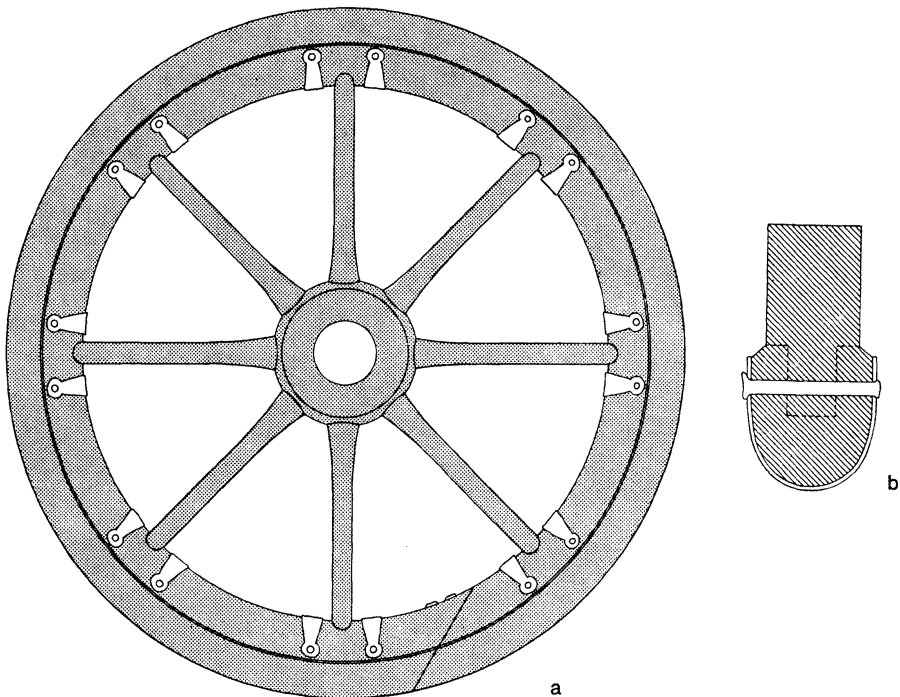


Figure 34. Reconstruction of a wagon wheel from Salamis, Cyprus. After V. Karageorghis, with revisions following data in his text. Wood and iron

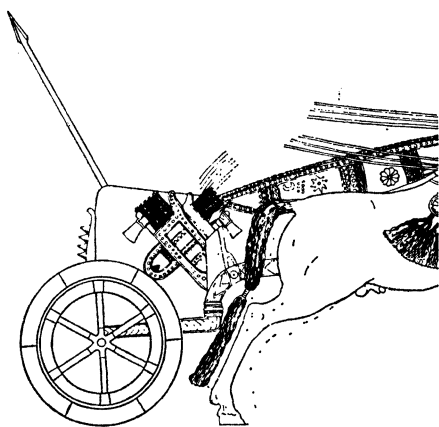
Scale: a 1:9.5; b 1:2.8

is 1 cm narrower than the inner, which received the spokes into its U-shaped profile. On either side of the spoke heads he found iron attachments, bent round to match this profile (fig. 33:5) and secured to the inner felloe by a nail through their ring-shaped terminals. Karageorghis was undecided about the function of these clamps, though he does wonder whether they might have served to hold the parts of the felloe together; he does not indeed know how these were secured. There is no iron tyre which could have stabilized them by external pressure, neither are there any iron nails. Presumably, then, the only possible technically satisfactory method remaining would be a tongue-and-groove construction. The outer rim-portion, like the inner, might have been bent round from a single piece of wood, and the tongue

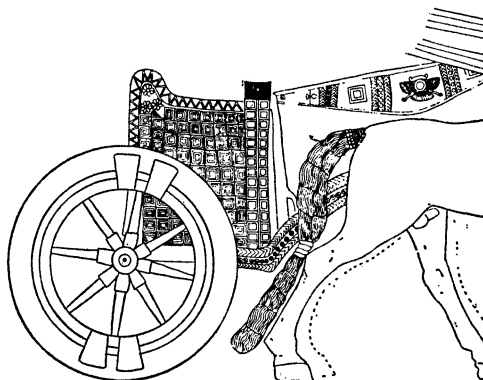
subsequently milled or modelled in some other way. For wood of this limited thickness it is unnecessary to postulate separate segments; also, there are no attachments which could have clamped their ends together. The principle of construction employed was thus similar to that of many of the much older bronze wheels, but a double wheel-rim made from two boards of different width has here been substituted for their spoke-rail and also, presumably, for the outer wooden felloe pieces on which their wheel ran. The rivets of the U-shaped attachments must have held the tongue of the outer rim in the groove of the inner.

Wheels of the type we have described from Salamis grave 3 have long been known from late Assyrian palace reliefs, which depict in a most realistic fashion vehicles being used in hunting, war and processions. From these sources we have an extremely clear idea of wagon construction among the Assyrians themselves and among peoples whom they conquered, like the Elamites. Naturally, war-chariots are prominent in all the representations.<sup>29</sup> The felloe is made up of two, and perhaps three, layers, which are invariably held together by two opposed pairs of broad-banded metal attachments (fig. 35, pl. 20). The spokes were let into the inner ring. From the eighth century there were at most eight<sup>30</sup> on fighting chariots, more – up to sixteen – on wagons used for carrying loads and foreign vehicles (fig. 35:4). The outer, rim-portion of the felloe was from two to four times the deeper, and almost always the metal clamps are seen to cover only up to two-thirds of it. From the seventh century its running surface is shown as fluted or notched, as though studded with nails (fig. 35:3).<sup>31</sup> There is no evidence of iron tyres, though on the ‘nailed’ wheels a tyre strengthening the running-surface cannot be excluded.

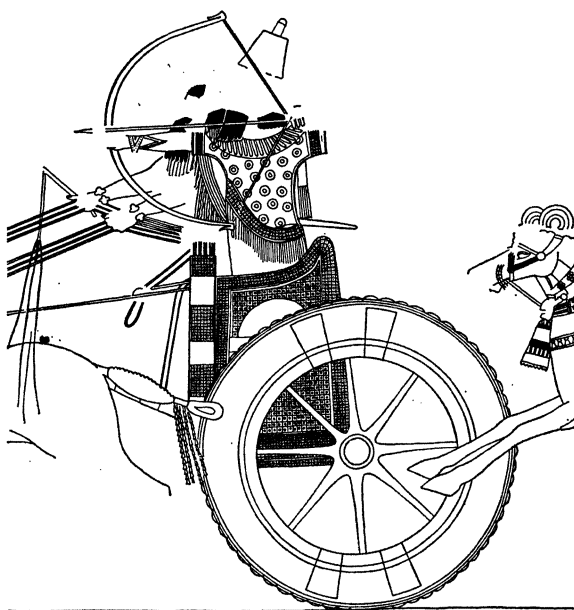
Despite the precision of the various portrayals (fig. 35), the technical details of felloe construction naturally remain uncertain. It seems reasonable to assume that the inner felloe portion, which faces the axle, is composed of a single piece of wood and that it had a groove to receive the tongue of the other felloe parts. But it is not obvious from the pictures how the outer rim-piece was constructed. In depth it measured about one quarter of the wheel radius. This precludes its manufacture from a single piece of wood, even in the very large wheels which were usual in the seventh century. At times these exceeded the height of the horses’ crupper or withers. In these cases the diameter will thus have been more than 1.37 m, judging from the height of Scythian horses.<sup>32</sup> Applying the rule-of-thumb measurements calculated earlier (ratio of wheel radius to thickness of the felloe wood 10:1), for a diameter of 1.4 m the thickness of a single-piece felloe could be at most 7 cm, and certainly not two-and-a-half times as great, which would be the measurement required by the proportions depicted. The much narrower, inner portion of the felloe is not even 7 cm thick; calculating from its relation to the outer felloe and to the wheel radius, it might be between 5–6 cm on the largest wheels, on occasion a little



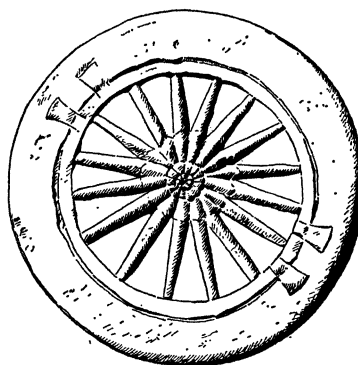
1



2



3



4

Figure 35. Representations of wagons in Assyrian wall-paintings and reliefs. 1 and 4, Nineveh; 2, Nimrud; 3, Til Barsib

more. Thus the outer felloe ring can only have been divided up, and this will have been into two equal sections, since the Assyrian war chariots always show only two pairs of clamps on each wheel. On the much smaller, six-spoke wheels of the ninth century, which have no such clamps, the separate felloe joints are in fact represented (fig. 35:1), but here there are six, to correspond with the number of spokes.<sup>33</sup>

Of all the wheels we have considered, these older Assyrian forms are structurally the closest to the bronze wheels we described earlier. The outer layer of the wheel constituted the running surface and was let, in segments, into an underlying board which formed the true felloe and received the spokes. Then, during the eighth century, wheel development led to a reduction in the number of segments and to securing them by means of wide metal clamps, which were shaped to the felloe profile. Finally the segments were replaced by a single piece of wood, if the Cypriot example from the end of the seventh century can be considered in the same series. With such sporadic evidence, it is not to be expected that this development reflects the complete history of Near Eastern-east Mediterranean wagon construction. Representations of Elamite wagon wheels alone are enough to disprove this, since they seem to be characterized by a great number of spokes (fig. 35:4) combined with apparently similar felloe construction;<sup>34</sup> the Armenian board wheels from Lčaşen, which were discussed at the beginning of this paper, although much older, also have numerous spokes.

Hallstatt period wagon wheels in central Europe are related to the Assyrian-Elamite ones in decisive structural details, except for the iron tyres. For these we do not as yet seem to have conclusive evidence from this early period in Near Eastern culture. They belong to a stage of development also represented by the wheels with felloe clamps from the time of Tiglathpileser III (second half of the eighth century). Their interconnections, however, cannot be satisfactorily elucidated from the number of examples at present known, especially from Assyria and from extensions of the Urartu culture zone into Transcaucasia. One naturally thinks of this region, not only because in Lčaşen it has produced the oldest multiple-spoke wheels with board felloes so far known in the Near East, but because it must have supplied all Assyria and Urartu with riding and cart horses, as contemporary lists of tribute and plunder attest.<sup>35</sup> As horsemen and chariots became increasingly significant for military purposes and in wars against intrusive Indo-Iranian mounted warriors, both states procured themselves supplies of young horses in growing quantities. As is well known, certain cultural phenomena from the region also reached the Danube basin, via the south Russian steppes, including, along with weapons and regalia, examples of an early animal style, in which portrayals of the horse played a part. Principally, however, it was the harness which came over to the west, and with it a new breed of horse, which at the turn of the eighth and seventh century became more and more

common and spread in the central European Hallstatt area.<sup>36</sup> Wagons, too, seem to come with the horse and harness. However isolated the form known at Hradenín and Grosseibstadt may appear on present evidence, the composition of its wheels is so closely related to principles of construction known in the Near East that a common origin is probable.

University of Kiel

## Notes

- 1 S. Rudenko, *Kul'tura naselenija Gornogo Altaja v skifskoe vremja* (1953), 55ff., fig. 26; 59, fig. 28; pls 13, 2; 14, 2. Rudenko gives further details, after restoration, in *Kul'tura naselenija Zentralnogo Altaja v skifskoe vremja* (1960), 232ff, with pl. 52.
- 2 M.v.Dewall, *Pferd und Wagen in frühen China* (1964), 124ff. Detail p. 224 (wagon 7) 245.
- 3 *SA* 1960 (2), 140ff. 142 fig. 6 (kurgan 10); 147 fig. 13 (kurgan 11). Restoration, E. Rumjanzev, *Sov. Arch.* 1961 (1), 236ff., 241, fig. 3 (kurgan 6). For the wagon disc-wheels in the group as a whole see S. Piggott, *PPS* 34 (1969), 266ff. and esp. 278, 285f. and 293f. Chronology, A. Martirosjan, *Armenija v epochu bronzji i rannego železa* (1964), 81ff., esp. 93ff. with pls 8–9 and table on pl. 35. A general account also in *SA* 1964 (3), 21ff. The division into relative-chronological periods cannot be checked because the material is not complete. The difficulty lies in the need to distribute the very abundant but stylistically comparatively uniform material over several centuries in order to be able to link it with the time of the Caucasian arc fibulae and bronze horse-trappings or with Urartu material of the ninth and eighth centuries B.C. How closely the individual types seem in fact to interconnect emerges from comparison of the finds from Lčāšen with bronzes from Kvemo-Sasirethi (G. Nioradze, *ESA* 7 (1932), 82ff.; belonging to the same group, Azarat near Nor-Bajazet: Martirosjan, *op. cit.*, pl. 10), Diližan (Martirosjan, *op. cit.*, pl. 35, VI 6–9), Wornak (*ibid.*, pl. 11) and Arčadzor (*SA* 27, 1957, 135ff.). They must be divisible into three different periods covering in all 400 years. Accordingly Martirosjan (*op. cit.*, 100) puts the date of the Kvemo-Sasirethi hoard within the period between the thirteenth and tenth centuries B.C.
- 4 P. Vouga, *La Tène* (1923), 92f. with fig. 9.
- 5 H. Petersen, *Vognfundene i Dejbjerg Praestegårdmose* (1888). Further, O. Klindt-Jensen, *Acta Arch.* 20 (1949), 87ff.
- 6 Summarized in K. Raddatz, *Das Wagengrab der jüngeren vorrömischen Eisenzeit von Husby, Kreis Flensburg* (1967), 26ff., 32f. Cf. also J. Joffroy and D. Bretz-Mahler, *Gallia* 17 (1959), 5ff, esp. 20, fig. 15. I. M. Stead, *Antiq.* 39 (1965), 259ff., 261, fig. 2. *Idem*, *La Tène Cultures of Eastern Yorksbire* (1965), 30, fig. 14, 11–13.
- 7 Somme-Bionne: L. Morel, *Mémoires soc. d'agriculture, commerce, sciences et arts du Dépt. de la Marne* 1874–5, pl. 12, 4. Montéqueux: C. Coyon, *Découverte et fouilles dans un cimetière gaulois, lieu dit le Montéqueux, terr. de Beine (Marne)*, paper to the Académie de Reims on 22 May 1896 (1897). Montelle de Germiny: *Bull. de la Soc. Champenoise* 20, (1926), 45, 49 with fig. Kärlich, Ldkr. Koblenz: W. Rest, *Bonner Jahrbuch* 146 (1941), 288, 293, fig. 42:1. Les Jogasses near Choilly: *Bull. de la Soc.*

- Champenoise* 19 (1925), 37ff., with pl. 2:8; also R. Joffroy, *Sépultures à char du premier âge du fer en France* (1958), 131, fig. 33, 6. Vix near Châtillon-sur-Seine: R. Joffroy, *op. cit.* 109, fig. 26:2. Bell, Ldkr. Simmern: W. Rest, *Bonn. Jahrb.* 148 (1948), 133ff.
- 8 Circolo di Perazzeta: A. Minto, *Marsiliana d'Albegna* (1921), 173. 282 with pl. 46, 6. Vetulonia, 2. circolo delle Pelliccie: O. Montelius, *Civilisation primitive* pl. 196, 6. Veii: *ibid.*, pl. 349:3. Ceveteri-Caere: L. Pareti, *La Tomba Regolini-Galassi* (1947), 264 with pl. 27, 228. Hohmichele bei Hundersinden: G. Riek, *Der Hohmichele, ein Fürstengrab der späten Hallstattzeit bei der Heuneburg* (1963), 133 with pl. 3:27. Albertshofen, Ldkr. Kitzingen: P. Reinecke in *Germania* 21 (1937), 163f. with pl. 38, 1. Beilngries: W. Torbrügge, *Die Hallstattzeit in der Oberpfalz* 2 (1965), pl. 26:2. 4. Lhotka-Welhotta bei Lovosice: F. Dvořák, *Kniželi Pohřby na vozecch ze starší doby železné* (Wagengräber der älteren Eisenzeit in Böhmen) (1938), 11 fig. 5. Hradenín bei Kolin: *ibid.*, 43, fig. 40, 11; 48, fig. 43, 5.
- 9 References as n. 8.
- 10 Information from the firm of F. Kreutzfeld at Ascheberg (Holstein). I should like here to repeat my thanks for their helpful advice.
- 11 Information most gratefully received from Prof. Dr Noack, Institut für Holzphysik, Bundesanstalt für Holz- und Forstwirtschaft, Reinbek bei Hamburg.
- 12 For chronology now J. Driehaus, *Bonn. Jahrb.* 166 (1966), 1ff.
- 13 *Südbayern während der Hallstattzeit* (1959), 90, 92, fig. 15, 2a.
- 14 Weinheim-Nächstenbach a.d. Bergstr.: P. Stemmermann, *Badische Fundber.* 3 (1933), 1ff., 10, fig. 2. The Bad Homburg hoard is contemporary: F.-R. Herrmann, *Die Funde der Urnenfelderkultur in Mittel- und Südbayern* (1966), pl. 187:24. On the whole group: J. Déchelette, *Manuel d'Arch.* 2, 1<sup>2</sup> (1924), 290ff. with fig. III and III bis. Further H. Jacob-Friesen, *Prähist. Zeitschr.* 18 (1927), 154ff. *Idem*, *Einführung in Niedersachsens Urgeschichte*, 4th ed. (1963), 352ff.; the reconstruction given here on page p. 355, fig. 353, is wrong not only in its relative proportions. To find it combined with a Hajduböszörmény type bucket is as diverting as the thought of a Jacobin driving in a modern Rolls-Royce. On this type now H.-J. Hundt and D. Ankner, *Mitteilungen Hist. Verein der Pfalz (Festschrift 100 Jahre Hist. Mus. der Pfalz)* (1969), 14ff.
- 15 Abos, Kom. Sáros; J. Hampel, *Bronzkor*, 1 (1887), pl. 59, 1.
- 16 Hart. a.d. Alz, Ldkr. Altötting: H. Müller-Karpe, *Bayer. Vorgeschichtsbl.* 21 (1955), 46ff., 67, fig. 7 and pl. 9: 3-6.
- 17 *Tiryns* 2, 98, fig. 40. H. Bossert, *Altkreta* 3rd. ed. (1937), 23, fig. 32. J. Wiesner, *Fahren und Reiten* (Archaeol. Homeric 1, 1968), F 43 f. with fig. 8.
- 18 References as n. 17.
- 19 J. Hampel, *op. cit.*, pl. 59:2.
- 20 Athens, Agora grave 12: *Hesperia* Suppl. 2 (1939), 55ff. fig. 37-8. T. Webster, *From Mycenae to Homer* (1958), 174 and pl. 23. J. Wiesner, *op. cit.*, F 67, fig. 18c. Further, J. N. Coldstream, *Greek Geometric Pottery* (1968), 58 and pl. 11c. On the chronology of Late Geometric 11b, *ibid.*, 360ff.
- 21 F. Dvořák, *op. cit.* (n. 8).
- 22 A. Minto, *Populonia* (1922), 133, fig. 19. The Krasnokutski kurgan between Nikopol and Jekaterinoslaw: Hermitage, Leningrad. On the material, M. I. Rostovtsev, *Skythien und der Bosporus* (1931), 359, 382.



- 23 *Neue Ausgrabungen in Deutschland* (1958), 121ff. The author is preparing a republication as a monograph in the Materialhefte zur Bayerische Vorgeschichte.
- 24 The Albertshofen and Beilngries finds cited in n. 8 are to be interpreted in the same way we have described. At Albertshofen of course only four U-shaped attachments are known, and they are 2.5 cm shorter than the iron tyre-nails (length 8.4 cm). We must thus infer that the felloe was in two pieces. At Beilngries U-shaped attachments and frames of nailed metal straps were found together; again, the U-clamps are shorter than the frames (barely 9 cm long).
- 25 E. Ghislanzoni, *Il carro di bronzo della Camorta* (1930), 6, fig. 3, middle right. Offprint from *Rivista Arch. di Como* (1930) 99-101.
- 26 References in n. 22.
- 27 Kerameikos: H. Müller-Karpe, *Jahrb. Deutsch. Arch. Instit.* 77 (1962), 103, fig. 21, 13 (3.6 x 5.1 cm). Several similar pieces (6 x 3 cm) in the wagon grave of Fondo Cortesi at Bologna, Bologna Museo Civico. It is questionable whether they have the same function: D. Robinson, *Excavations at Olyntos* 10 (1941), pl. 99.
- 28 Various preliminary publications in *BCH* (from vol. 87, 1963), now collected in *Excavations in the Necropolis of Salamis I* (1967). Important for our purposes, graves 2 (6ff., esp. 22ff.), 3 (25ff., esp. 49ff.) and 47 (74ff., esp. 85).
- 29 Basic work A. Salonen, *Die Landfahrzeuge des alten Mesopotamien* (1951). B. Hrouda, *Iraq* 25 (1963), 155 ff. *Idem*, *Die Kulturgeschichte des assyrischen Flachbildes* (1965), 93ff. W. Nagel, *Der mesopotamische Streitwagen und seine Entwicklung im ostmediterranen Bereich* (1966), 51ff. A general survey, W. Treue, *Achse, Rad und Wagen* (1965).
- 30 Examples: Nimrud (Kalach), at the time of Tiglathpileser III: S. Smith, *Assyrian Sculptures in the British Museum* (1938), pl. 9; B. Hrouda, *op. cit.*, pl. 26, 4; W. Nagel, *op. cit.*, 86, fig. 48-9; A. Salonen, *op. cit.*, pl. 33, 2. Nineveh (Kujundschik), same period: A. Layard, *Monuments of Nineveh* 2, pl. on 356; A. Salonen, *op. cit.*, pl. 33, 2. Til Barsib (Tell Asmar), second half of the eighth century: F. Thureau-Dangin and M. Dunand, *Til-Barsib* (1936), pl. 49; B. Hrouda, *op. cit.*, pl. 27:1; A. Parrot, *Assur* (Universum der Kunst 1961), pl. IV behind p. XIV.
- 31 Til Barsib: F. Thureau-Dangin and M. Duand, *op. cit.*, pl. 53. A. Parrot *op. cit.*, 58, fig. 65. A. Salonen, *op. cit.*, pl. 40.
- 32 For recent calculations of the height of Scythian horses, S. Bökönyi, *Mecklenburg Collection* 1 (Bull. American School of Prehist. Research 25), 1968, 36.
- 33 Nineveh: A. Layard, *op. cit.* 1 (1849), pl. 31; B. Hrouda, *op. cit.*, pl. 26, 3. Presumably also Nimrud: R. Barnett and W. Forman, *Assyrische Palastreliefs* (no date), fig. 17.
- 34 Nineveh, Sennacherib's and Assurbanipal's palace: R. Barnett and W. Forman, *op. cit.*, fig. 119 and 135. Sixteen spokes.
- 35 F. König, *Archiv für Völkerkunde* (Wien) 9 (1954), 21ff. F. Hančar, *Das Pferd in prähistorischer und früher historischer Zeit* (1955), 185ff.
- 36 Horse breeds: G. Kossack, *Südbayern während der Hallstattzeit* (1959), 88ff. Regalia: J. Werner, *Památky Archaeol.* 52 (1961), 384ff. The bit and toggle from Předměřice are still Late Urnfield in date and the sword and boat-shaped chape are possibly older than iron Hallstatt swords with wing-chapes. On the same theme, V. Iljin-skaja, *MLA* 130 (1956), 206ff. and F. Hančar, *Archaeol. Austriaca* 40 (1966), 113ff. G. Jacob-Friesen's *Studien zur europäischen Vor- und Frühgeschichte* (1968) incor-

porates nothing new; the animal head sceptre from Kislovodsk is especially important since it was associated with a Gammau type dagger, which provides valuable chronological connections between the Caucasus and central Europe during the later Urnfield period. On this, G. Kossack, *Jahrb. RGZM Mainz* 1 1953 (1954), 137 f., fig. 14 (the find wrongly illustrated there in fig. 14:3 comes from Berezovka and a better drawing is now available in E. Krupnov, *Drevnjaja istorija severnogo Kavkaza* (1960), pl. 35:1.) Besides Gammau the specimen from the Mátra in Hungary still deserves mention: *Arch. Ért.* (1897), 53, fig. 15; W. Ginters, *Das Schwert der Skythen und Sarmaten in Südrussland* (1928), pl. 15e; A. Terenožkin, *Voprosi skifo-sarmatskii Archaeologii* (1954), 103, fig. 11:6. A further Caucasian specimen from Berezovka, E. Krupnov, *op. cit.*, 434, pl. 12, 1. Basic form perhaps C. Schaeffer, *Stratigraphie comparée et chronologie de l'Asie occidentale* (1948), fig. 231, 2 (Talys) or A. Martirosjan, *op. cit.*, 84, fig. 39 (Tazakend, Armenia).

### Acknowledgments

- Fig. 28: 1 H. Petersen, *Vognfundene i Dejbjerg Praestegaardsmose ved Ringjølbing* (1888), pl. 4:1, 1c.  
 2 *Bonner Jahrb.* 146 (1941), 293, fig. 42:1, 2, 6 (W. Rest).  
 Fig. 29. *Bonner Jahrb.* 148 (1948), pl. 27 (W. Rest).  
 Fig. 30: 1 *Repertorium der Ur-und Frühgeschichte der Schweiz* 2: *Die Bronzezeit der Schweiz* (1956), pl. 17:8 (H.-G. Bandi).  
 2 J. Hampel, *A Bronzkor emlékei Magyarhoban* 1 (1886), pl. 59:1.  
 3 J. N. Coldstream, *Greek Geometric Pottery* (1968), pl. 11:c.  
 4 H. Bossert, *Altkreta*<sup>3</sup> (1937), 23, fig. 32.  
 Fig. 31. After originals in Kolín Museum (1) and in the Prähistorischen Staatssammlung München (2).  
 Fig. 32. F. Dvořák, *Knížeci pohřby na vozecch ze starší doby železné* (1938), 47, fig. 42.  
 Fig. 33. After originals in the Prähistorischen Staatssammlung München (1-3), in Kolín Museum (4) and in the Hermitage, Leningrad (6). 5 after V. Karageorghis, *Excavations in the Necropolis of Salamis 1* (1967), pl. 122, 167.  
 Fig. 34. a: after V. Karageorghis, *Excavations in the Necropolis of Salamis 1* (1967), pl. 21, with corrections, b: drawn from figures and text descriptions.  
 Fig. 35: 1, 2 After B. Hrouda, *Die Kulturgeschichte des assyrischen Flachbildes* (1965), pl. 26: 3, 4.  
 3 After A. Parrot, *Assur* (1961), 269 ff., fig. 345.  
 4 After R. Barnett and W. Forman, *Assyrische Palastreliefs* (no date), fig. 121.  
 Plate 18. After originals in Kolín Museum. Photographs Arch. USTAV Prag.  
 Plate 19, 1: After originals in the Prähistorischen Staatssammlung München, Photographs Bayer. Landesamt f. Denkmalpflege.  
 2: Photograph G. Jacob-Friesen.  
 Plate 20. After A. Parrot, *Assur* (1961), 58 f., fig. 65.



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## The Waldalgesheim Master

*E. M. Jope*



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When in 1869 a ploughman disturbed a rich chariot burial of the Celtic nobility at Waldalgesheim<sup>1</sup> just west of the middle Rhine in the Hunsrück, he opened the way to a new chapter in the history of European art, one not yet fully explored. The contents of this rich grave were at once published by Ernst aus'm Weerth in the 1870 *Winckelmannsprogramm* in Bonn,<sup>2</sup> where this fine gold and bronze work is now displayed in the Rheinisches Landesmuseum. I hope it may please Christopher Hawkes to find the centenary of this auspicious discovery celebrated in concert with his *Festjahr*, in honour of the ceaselessly searching thought with which he has pursued and illuminated the prehistory of Britain and Europe.

The decorative gold-work and bronze equipment in this princely double grave,<sup>3</sup> as well as revealing an exemplar from the southerly classical world used by a Celtic artist at work in these middle Rhenish lands in the later fourth century B.C., allows us perhaps also to penetrate a little at the beginning of the Hellenistic age the veil of impersonality which usually surrounds the arts of the barbarians in trans-alpine Europe.

To the manner of formal ornament so well displayed on this gold finery and bronze equipment Paul Jacobsthal gave the title Waldalgesheim Style.<sup>4</sup> We need now to refine this concept, dissecting and grading its content, if we are to use it effectively. To what extent can we see in the Waldalgesheim metal-work the directing mind of one artist, one atelier-master? Can we give substance to the personal style of one individual, the Waldalgesheim Master,<sup>5</sup> distinguishing it from work of his atelier generally, and of his more distant followers?<sup>6</sup> Some very distinctive ornament devices pervade this variety of gold and bronze-work, with its solid and embossed modelling and its open-work, devices brought together here in a concentration not to be seen in other known Celtic princely assemblages. Above all, there is the sense of style in spacious layout and lucid but venturesome composition, an inborn personal attribute not to be readily won by mere labour and experience.

These distinctive ornament devices may be specified. (1) Figure-of-eight crossover eel-bodies (figs. 36, 38), often sprouting from the corners of (2) broad curved triangles (fig. 36: a, c, e), which are sometimes themselves to be read as halved split-palmettes.<sup>7</sup> (3) Patterns in which looped serpentine eel-bodies meander more

as winding streams, sometimes limpid, sometimes writhing, into placid lakes (again often the broad curved triangles of split-palmette derivation). (4) Fins with concave tails, also arising from halved split-palmette figures by omission of footscroll volute or stud (fig. 38: b, d). (5) Peltate fan-finials or fans, the simplified outlines of footscroll-less palmettes or foliate scrolling. There is little life in the formalized plant shapes, but more movement in the serpentine streams. (6) Most illuminating is the way in which the floral detail from the classical exemplar itself, the late-fourth-century Campanian bucket,<sup>8</sup> which was deposited in this grave (pl. 23), had been taken as a source for ornament devices on the gold and bronze work. Detailed consideration here seems to indicate unified control by one master over an atelier which produced most of the Waldalgesheim metal-work, and we shall see below how clearly the axillar and  $\Psi$ -axillar<sup>9</sup> flowers can be made to show the primary status of the Waldalgesheim work as compared with other more distant works in this manner.

The Waldalgesheim Master must have taken his strange daisy-flowers with their blunted-tipped concave petalling (by a curious reversal of imagery: fig. 36: a), from the five-petalled flowers whose wiry stalks rise from the scroll edging-ribs on the Campanian bucket cartouches (pl. 23).<sup>10</sup> He has more clearly taken his  $\Psi$ -axillar fillings (fig. 36: a) from the truly axillar convolvulus trumpet-flowers of the bucket cartouches (pl. 23), trying to render in his own way the modelled shaping, lateral scrolls of the flower trumpets, making them angular with medial arrisses and changing the open flower mouth into a domed cap. These hard angular florals have in turn been quite misunderstood and mis-set by a lesser artist in working the gold torc from grave II in the Filottrano cemetery at Ancona (fig. 36: b, d).<sup>11</sup> The usage of  $\Psi$ -axillar flowers thus shows up clearly the primary status of the Waldalgesheim gold itself, when compared with other good work in this manner.

Most striking also is the way in which the Waldalgesheim Master, having eschewed canonic use for the conventional almond rendering of the open trumpet-flower mouth as on the Campanian exemplar, has detached it to use as an isolated cipher unit to punctuate the rows of discrete curls in the buffer-friezes of the gold armlets (pl. 25: c).<sup>12</sup>

The curious horn-curls of the friezes on the buffers of these armrings (pl. 25: c) and borders on the back-moulding (pl. 25: b) seem to have an understandable genesis from the curl-ended lobe figures used on the torc to fill the S-spandrels of its buffer friezes, and set like a fourfold whirligig in their saucer ends<sup>13</sup> (pl. 25: a, e). On the armring buffer-friezes these curl-ended lobes are set upright but are thus just too tall, and the baggy top ends have been shaped as though sliced to leave segmental splays, with rib-edging exactly as on the segmental splays left to allow a crossing strand to pass on the interlace modelling of the back moulding.<sup>14</sup> This might suggest that the armrings were made after the torc (on which the lobe-curls are not sliced),

and we can perhaps begin to see the sequence of stages through which the Waldalgesheim Master proceeded to conjure his true figure-of-eight interlaces (fig. 38: a, b, c) from the symmetrically-arranged crossover flourishes on his larger gold masterwork, the torc (fig. 36: a).

The manner in which, on the Campanian bucket cartouches, the wiry flower-stalks climb out over the scrolling ribbons, and similar fine strands rise from scroll

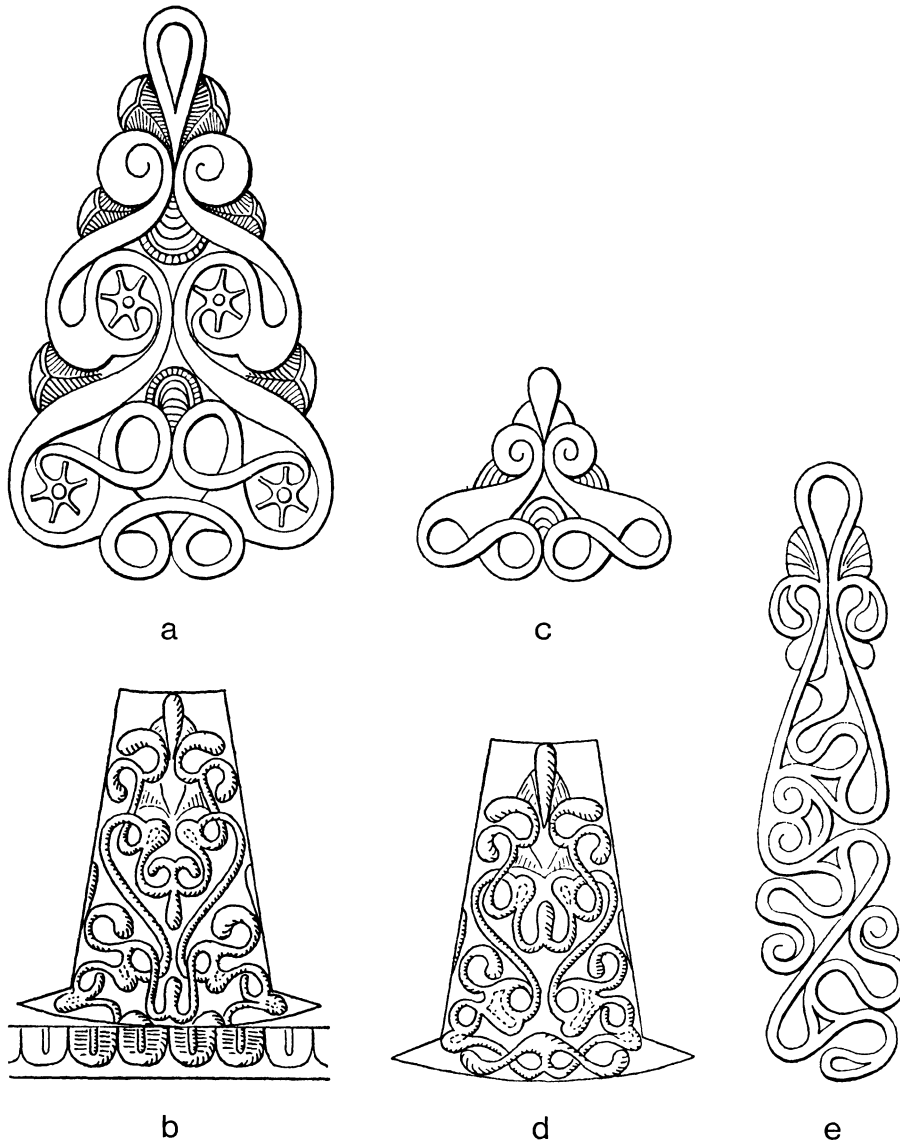


Figure 36. After Jacobsthal, *Early Celtic Art* (PP 353, 354, 441, 355 and 358)



edge-ribs to make stylized sheaths on the main stem or a formal palmette-node (pl. 23), may have disposed the Waldalgesheim Master to his exploration of crossover work which led to his distinctive use of figures-of-eight in composition.

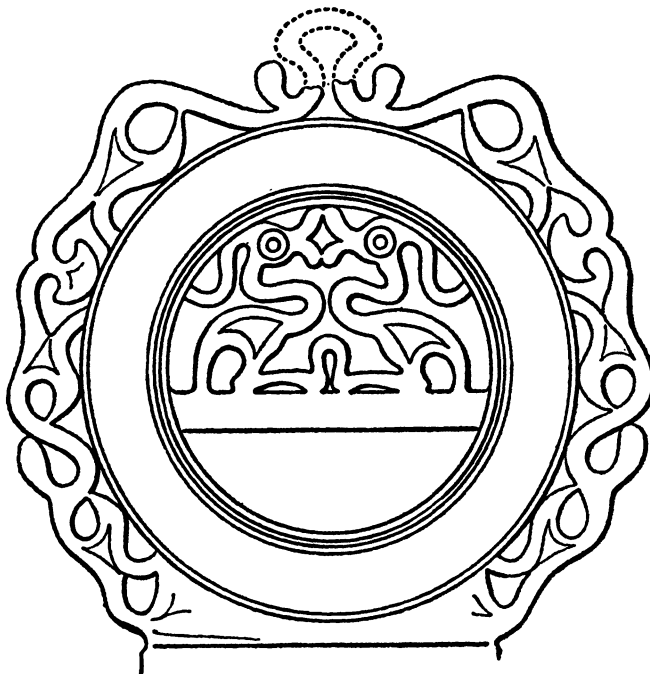
Several other influences may also have encouraged this trend towards figure-of-eight interlacing. The intricate openwork surround to the magnificent fairlead



a



b



c

Figure 37. a-b, after Jacobsthal, *Early Celtic Art* (PP 450 and 445). c Fairlead from Waldalgesheim. Height, as reassembled, 8.7 cm

(fig. 37:c)<sup>15</sup> comes in places very close to figure-of-eight composition,<sup>16</sup> and seems to betray an interest in the open-work surrounds of classical mirrors<sup>17</sup> and open-work bowl-mounts,<sup>18</sup> where for instance wrestling figures may have their arms tightly interlocked.

The figure-of-eight crossover patterning is also akin to guilloche work; that the ancient guilloche as an ornamental device interested Celtic artists at this time is evident from works like the Basse-Yutz (Lorraine) flagons (*ECA* no. 381) or the Sanzeno scabbard (*ECA* no. 104, P136), and even earlier one of the Klein Aspergle horns has its own original version.

The genesis of a figure-of-eight interlacing manner is further illustrated by the way the Waldalgesheim Master has, on his torc, accommodated the buffer-frieze design of alternating split-palmettes and conjoining S-scrolls (fig. 37: a, pl. 25a) to the more restricted space of the intermediate necking, by coalescing the palmettes into a broadly waving strap crossed by the thin S-body strands (fig. 37: b, pl. 22). Here is one of most economical and satisfying exercises in formal composition to be found in early Celtic art, well illustrating the poise of its classic age.<sup>19</sup> In this manoeuvre we seem to follow another step in this master's increasing fluency in figure-of-eight interlace composition, which however he does not actually use as such on the torc itself. He achieves it most economically in symbiosis with the broad curved triangles on the gold armrings (pl. 25f, 24a, b, fig. 36) and uses it with the simplest symmetrical clarity on the Waldalgesheim open-work bronzes (*ECA* nos. 156 ei and ii; the open-work surround gives the effect illusively); also it is seen occasionally in the more wayward embellishment of the embossed mask-bronzes (fig. 38: b and d *ECA* nos. 156 d) but elsewhere potential relief crossovers tend to be submerged in coalescences (there is a ghostly attempt on the strap bracelet, fig. 40: a).

Nowhere else but on the metal-work of the Waldalgesheim grave are low-relief tentacle strands tied quite so effectively into neat knots to round off a broad composition. We see crossovers (but no figures-of-eight) on the Filottrano torc (fig. 36: b, d, *ECA* no. 44) and the ingenious wave patterning on a ring from Dürrenberg<sup>20</sup> comes very near to showing them. But figure-of-eight crossovers must have penetrated a little into more general currency, for they seem to lie behind the not entirely randomized peardrop scatters on Hungarian second-century scabbards,<sup>21</sup> and attempts to render such figure-of-eight crossovers appear in later line-work from Hungary to Britain.<sup>22</sup>

The friezes on the horn bases (fig. 39, *ECA* no. 156a, P436) and the panels on the cambered-strap bracelet (fig. 40: d, *ECA* no. 156f, PP435, 437) show how arms which butt dead against scrolling or S-bodies can arise by copyings from canonical foliation; so these butting arms need not imply abortive simulated crossovers, though they may sometimes give that feeling.<sup>23</sup>

The broad curved triangles were no new theme in early Celtic art when the Waldalgesheim Master was at work in the later fourth century. As voids marked out by thin strands, they dominate one manner of late-fifth and fourth-century ornament made up as widely spaced meshes of fine threads joining specific points or eyelets, to mark out formalized lyre or lotus-flower patterns (*ECA* PP300, 301, 304; no. 140).

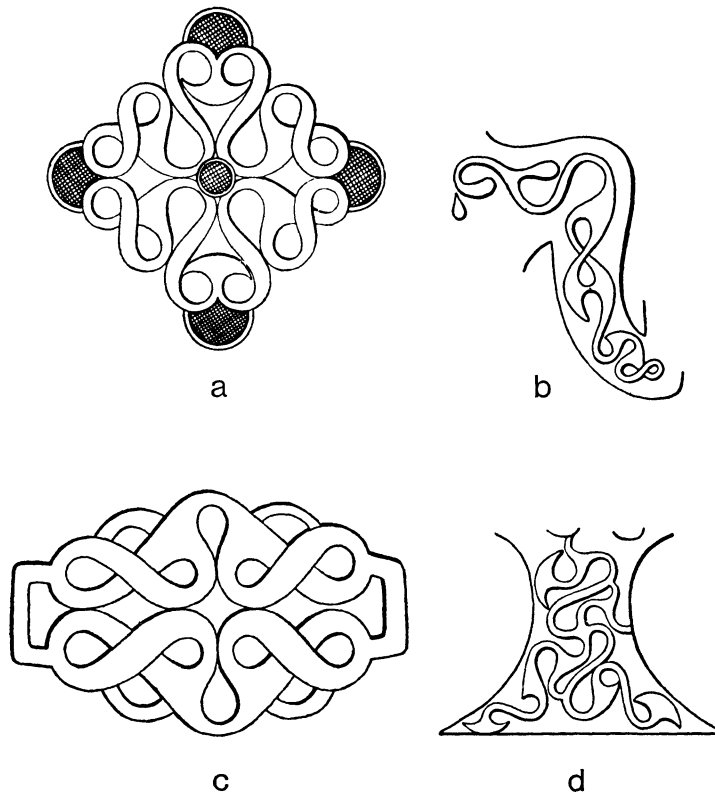


Figure 38. After Jacobsthal, *Early Celtic Art* (PP 444, 447, 442 and 446)

In the hands of the Waldalgesheim Master however these curved triangles are themselves treated as pliant articulation-centres in patterns worked up to embellish spaces of any shape, some very eccentric. It is this pliant quality, combined with the springy resilience of the muscled writhing eel-bodies and tentacles growing from their corners, that makes such ornament 'an unsurpassed instrument of decoration, utterly flexible, adaptable to any field, purpose or technique'.<sup>24</sup> The effect of such skill in composition in the hands of the Waldalgesheim Master and some of his confrères continued to be felt for many generations, disseminated widely through the Celtic world.

These curved triangles could also be used to create threefold whirligig effects; this potentiality is only modestly exploited on the Waldalgesheim metal-work (figs. 36: c, 38: a), but there is a rather jerky fourfold whirligig design (fig. 38: d).

The peltae and peltate fan-finials so distinctive in some of the Waldalgesheim ornament arise from dismembering (or consolidating the outline) of split-palmette

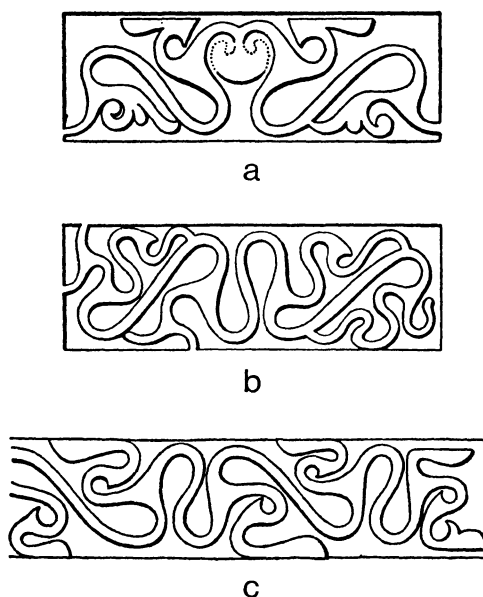


Figure 39. After Jacobsthal, *Early Celtic Art* (PP 437, 435 and 436)

figures (figs. 38: d, 37: a). Peltae may be marshalled into double-pelta figures (so fruitful later for composition in the British Isles), sometimes even more closely locked by twining their tails to make them take part in figure-of-eight compositions (fig. 38: c).

The distinctive peltate fan-finials may also arise from schematized foliation; palmette outlines shorn of flanking volutes.<sup>25</sup>

Fins, their backs slanting at low angle and their hind-ends concave, are also distinctive of Waldalgesheim and of much related work. In figs. 38: b and d we see clearly how they arose as one side of a split-palmette figure, as when the other side becomes a curved triangle giving birth to a figure-of-eight (fig. 38: b), or merely lost (figs. 38: d, 39: a). The Brunn-am-Steinfeld and Comacchio bronzes illustrate yet more clearly how this came about when the foot-volute or stud was omitted; but these shapes are not really used singly as fins in these designs.<sup>26</sup> This trend could have been given impetus by the work of the Waldalgesheim atelier.

The Waldalgesheim atelier peltate figures and fins arise in the bronze-work rather than on the gold, though peltae are there ready to be extracted from the palmettes of the torc buffer-frieze (fig. 37: a), as they are on the openwork bronzes (figs. 37: a, 38: c); one of the finest (fig. 38: a) shows how peltae were related to the axillar fillings on the gold (fig. 36: a, c, e). Peltae are seen or implicit on the best

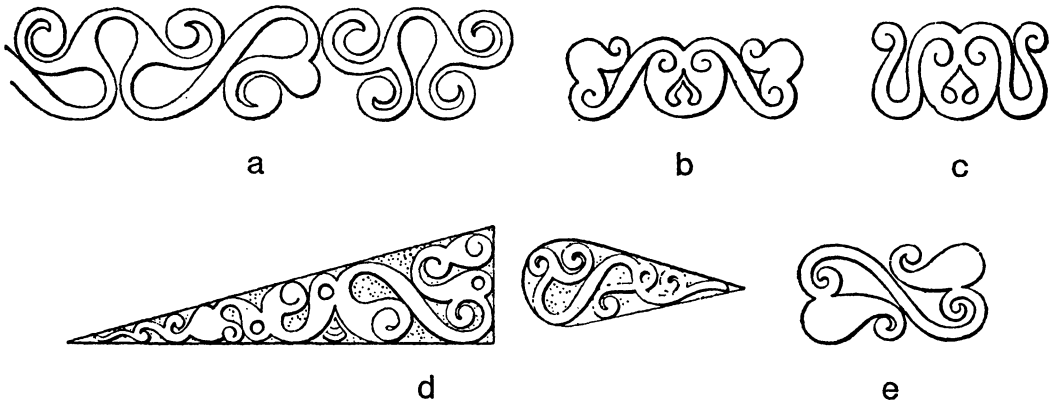


Figure 40. After Jacobsthal, *Early Celtic Art* (PP 439, 451, 452, 457 and 453)

open-work bronze designs (figs. 37: c, 38: a), and fins are developed not on these but on the embossed embellishments (fig. 38: b and d). If we would seek to distinguish bronze-masters from the gold-master, the work of all is nevertheless held firmly inter-linked within the atelier practice through the use of figure-of-eight knotting: and one artist may have several facets to his personality.

It is instructive to examine how a lesser hand in this atelier responded when set to embellish the awkward tightly-curved surfaces of the spherical knobs on the penannular arming (pl. 25d; fig. 40: b, c) with the master's split-palmette-centred swags or scrollings (figs. 37: a, 36: a). The theme is still basically classical and taken from the atelier pattern book, but the patterns seem not to be worked by the same hand as the gold and the more graceful bronzes, for they stray from the purity of the master's split-palmettes in having unsympathetic angular arrowheads rising in what on good work is an elegantly swelling central space. Also, a new theme is seen: coalescences of lobes with scrollings. The awkwardness is partly due to working on so small a tightly-curving surface, but this worker does display some enterprise in transforming the added lobe-curly, as they coalesce with the scrolling, into little expectant open snouts (fig. 40: b, e). Such little faces appear in subsequent work, as on the 'gnome' series of Swiss scabbards.<sup>27</sup> This kind of spherical-knobbed arming is most often found in the graves of Württemberg<sup>28</sup> some 70 miles to the south-east, where the knob-ornament is however quite different and less ambitious, mere spirals. This observation enforces the inference that our knobbed ring was finished

in the Waldalgesheim atelier and, taken with the tiny concentric-hatched fan filling of a  $\Psi$ -axil on this bracelet, enhances the reality of such an atelier in the Kreuznach.

Such coalescences, of comma-leaf or comma-lobe, are of a quality quite different from the subtle economy of the torc necking (fig. 37: a), and are not seen on any major pieces in the Waldalgesheim grave, such as we would attribute to the master himself. They are however well seen on another lesser piece, the cambered-strap bracelet (fig. 40: d, *ECA* no. 156f, P457) where they are deployed in filling tapering panels; though less expressively used than on the knobbed ring, the expectant open snout does begin to emerge (fig. 40: d). The concentric-hatched-fan filling of a  $\Psi$ -axillar space on one of these coalescences further emphasizes the connection with work in the Waldalgesheim atelier (fig. 40: d, *cf.* fig. 36), even though the idea of coalescences seems intrusive into the highest traditions; there is also a ghostly flattened-out crossover strand in the smaller panels (fig. 40: d).

The buffer-torc<sup>29</sup> in grave II in the cemetery of the Senones at Filottrano near Ancona<sup>30</sup> (*ECA* no. 44) may suggest how elements of this homogeneous ornament style were carried into the practice of more distant workshops. The ornament of this torc much resembles the twining manner of the Waldalgesheim gold itself – it seems the only known example of crossover eel-bodies quite so similar – but it makes no play with figures-of-eight, peltate figures or fins. The entirely misconstrued use of misplaced axillar ‘flowers’ as they had been translated from the modelled naturalism of the classical trumpet-flowers by the Waldalgesheim Master working from his Campanian exemplar, suggests that the maker of the Filottrano gold torc was a follower of the Waldalgesheim gold-master, perhaps gaining early experience in his atelier, a man of lesser calibre though evidently good enough craftsman to travel south to work for the Senones – the leaf-like tongued scales<sup>31</sup> of his buffer-frieze he will probably have acquired south of the Alps.

Ornament in the manner of the Waldalgesheim strap-bracelet (fig. 40: d) is once again seen on a brooch from tomb 107 in the Münsingen cemetery.<sup>32</sup> A loop joining two scrolls, one very irregular, may be read as a misconstrued coalescence (*cf.* fig. 40: d) and other coalescences are misused; an eyelet towards the spring end recalls crossover flourishes like that on the small panels of the bracelet (fig. 40: d) note also the eyelets in the coalescences of the longer panels, (fig. 40: d): the axillar tongue hints at the concentric-shaded axil-filling which suggested that the bracelet had been worked in the Waldalgesheim atelier (p. 174). On another Swiss brooch of this type (*ECA* no. 336, from Yverdon) the writhing design is more restless but makes a show of regular ordering (contrast one from Deisswill) and a simulated (but misplaced) crossover as on a panel from the same horizon-group E<sup>33</sup> of the Waldalgesheim fairlead-mount (fig. 37: c).

Two other brooches from Münsingen may illustrate a little the more general

background of ornament traditions within which the Waldalgesheim Master grew up. On brooch 787 from tomb 48 a thin serpentine line grows scrolls from curved triangles, in an old long-living tradition (p. 172), in which probably lies the roots of the simpler fleshy scrolling on the Certosa-derivative brooch 851 from tomb 62, in the low relief manner we have seen on some of the Waldalgesheim bronze work.

The ornament on the solid gold torc from Oploty in Bohemia (pl. 25g)<sup>34</sup> lies even further from the manner of the Waldalgesheim Master himself, though there are family resemblances. There are no crossovers nor figures-of-eight as seen on his gold, no peltae, no fans, no fins, though some of the flourish that goes with the eel-bodies on the master's gold-work still remains, to conjure the slightly comic swaying figure.

Again in Bohemia, more distant relations of the Waldalgesheim open-work are well shown by the mounts from a grave at Čížovice.<sup>35</sup> Creeping eel-like bodies grow from broad curved triangles, and the skilfully organized crossover at the base opens up into a split-palmette (a scheme we have already seen on a gold ring from Dürrenberg-Hallein;<sup>36</sup> note how on the Czech piece the almond cipher creeps in, but here used grossly, but quite canonically in context, as the open mouth of large rigid trumpet-flowers (which might suggest the end of an independent long line of copy-work from classical sources); also the brutish mask peering from the foliation.

The Waldalgesheim Master and his atelier had thus distant followers and imitators among their collateral workers, the influence thinning out and fragmented, but still recognizable over three centuries later in many localities from Hungary to the British Isles. How new manners were grafted on to older continental goldsmiths' traditions is illustrated by the torc and armrings from Belgium<sup>37</sup> now in the British Museum, with their spiky flowers and berried rosettes,<sup>38</sup> their thin twining beaded threads (now like arabesques) and their rows of dummy rivet heads, all combining to give a much more fussy effect. These pieces deserve detailed study for the link they suggest between continental goldsmiths' practice and the new interest in gold arising in Britain around the end of the second century B.C., shown in the recent Ipswich gold find<sup>39</sup> (and the coinage),<sup>40</sup> leading on to the great treasure found in and around Snettisham,<sup>41</sup> where we can perhaps identify other atelier-masters.<sup>42</sup>

Dating must always be an insistent undercurrent in discussions of change in ornament usage. For the Waldalgesheim grave-goods the production date of the Campanian bucket is crucial, yet this still needs precise study in terms of Campanian industry; for the present we must use the conventional 'late fourth century'.<sup>43</sup> As exemplar it must give the earliest permissible date for the gold, and by the above reasoning of a coherent ornament development in the Waldalgesheim atelier, the same should apply to the relevant bronzes.

We must also see the Waldalgesheim metal-work in time relation to other Celtic work of this age. Ornament closely related to detail on the cambered-strap bracelet (fig. 40: d) and on the fairlead mount (fig. 37c) we have noted on the brooch (p. 175, of La Tène I b type) from grave 107 in the Münsingen cemetery near Berne. We must be wary of circular arguments, but the appearance of this Waldalgesheim-related detail in a grave so early (horizon-group E)<sup>44</sup> in the expansion of this Swiss cemetery does urge us not to press the Waldalgesheim burial too far into the late fourth century.<sup>45</sup> If a Waldalgesheim Master did play a formative part in shaping this manner of ornament, the Campanian bucket becomes decisive beyond most southerly imports for the chronology of transalpine Celtic Europe during this age. Yet we must not allow early dating to be too enthusiastically applied, for the spherical-knobbed armrings – or anklets – are found in La Tène I c contexts in their more usual habitat in Württemberg.<sup>46</sup>

The reality of the Waldalgesheim atelier is revealed in the unity of ornament throughout the metal-work so distinctive to this burial, with the hand of its master seen in the gold and the best of the bronzes. The Waldalgesheim Master's personality is shown in his eel-body crossover flourishes, as he gradually worked them into figure-of-eight compositions on the gold and carried this experience into the simple breadth of the openwork bronze designs. He was no copyist – witness how he fashioned to his purpose the axillar trumpet-flowers of the Campanian bucket, yet without maltreating them as did one of his not ungifted followers. Above all, it is the mastery of broad lucid composition, strongly articulated abstracts adapted to their purpose with sure economy of line – the sheer sense of style – that mark the individuality of this artist. Such refined taste is an inborn personal character not to be readily acquired by mere diligence.

On some of the other bronzes we see signs of subordinate hands at work all through the active lifetime of the master (p. 176), and also some skilled learners set to the goldsmiths art, implied by work found elsewhere. We have seen how work in this atelier was related to ornament current at this time over the Celtic world generally, and how ideas generated in its work could be carried into more distant workshop practice.

The Waldalgesheim chariot burial gives a rare glimpse of a Celtic atelier operating in middle Rhenish territory<sup>47</sup> in the fourth century B.C., presumably the prerogative of a noble line, from which they drew most of their fine metal-work rather than from distant production and market centres (as was becoming more usual in the Greek and Roman world).<sup>48</sup>

What then is to be meant by 'Waldalgesheim Style'? It is seen as a manner of flowing surface-ornament, its exponents more concerned with this than with innovations in overall design of the finery and equipment they embellished. It is a visual



term, but the name of the well-known grave inevitably carries fourth-century connotations. The name is often applied misleadingly to dismembered fragments (and stiffened patterns) from these flowing designs, which continued to be used as units in decoration for some centuries. The name should be used only after careful thought (by *each* prospective user); it is best reserved for flowing developed designs in this manner – isolated fragments should be described as such rather than set up as examples of the style; they do not necessarily carry much dating significance, as their context sometimes shows.

‘Waldalgesheim Style’ should moreover logically be restricted to examples demonstrably influenced by the work of the Waldalgesheim Master and his atelier.<sup>49</sup> Yet we need also a wider term, to embrace the whole range of controlled flowing ornament of this classic age<sup>50</sup> of early Celtic art. ‘Classic Celtic Style’ (within which we distinguish a Waldalgesheim manner)<sup>51</sup> might usefully denote these trends whereby in this age Celtic artists attained their ‘sovereign freedom’.<sup>52</sup>

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## Notes

- 1 Just 4 km west of where the Nahe joins the Rhine at Bingen: W. Dehn, *Katalog Kreuznach* (1941), folding map.
- 2 E. aus'm Weerth, ‘Der Grabfund von Wald-Algesheim’, *Festprogramm für Winckelmanns Geburtstag*, 9 December 1870 (Bonn, 1870).
- 3 The assertion by the ploughman finder that this was a double grave of a man and a woman seems to have gained general acceptance.
- 4 Paul Jacobsthal, *Early Celtic Art* (1944), 94, 162: *ECA*.
- 5 Who so fleetingly appears in the literature of early Celtic art, *ECA*, 93.
- 6 Such stylistic analysis to identify the work of individual artists is not often attempted for comparable material in the classical or medieval sphere (cp. O. Pächt, *The Master of Mary of Burgundy* (1948)); for Greek and Italic painted vases extrapolation from signed pieces is a frequent practice, but even signed vases can present their uncertainties (J. D. Beazley, ‘Potter and Painter in Ancient Athens’, *Proc. Brit. Acad.*, 30 (1945), 41). For signed works, G. M. A. Richter, *Ancient Italy* (1955), 35, 71; D. E. Strong, *Greek and Roman Gold and Silver Plate* (1966), 19 f.
- 7 Riegl’s ‘gesprengte Palmette’ (*Stilfragen* (1897), 62); the alternative translation ‘split’ is preferable, unless in the specialized sense ‘sprung apart’.
- 8 *ECA* no. 156 h. *Die Antike*, 10 (1934), 29, fig. 8. Berlin Winckelmannsprogramm (1932). The ornament on the cartouches below the handle-mount on this bucket has some uncanonical features, such as the sheathings misconstrued as leaf-stalks as they unfurl from the stem. The dating implications still need to be studied in detail in terms of Campanian industrial production trends.
- 9 This term pseudo-axil seems necessary for re-entrant angles of scrolling not actually joined as for a true branching axil.

- 10 The Waldalgesheim atelier seems to have had no use in its ornament repertory for the strange little conical inverted flowers like long-petalled daisies going to seed with their petals dropping back (pl. 23).
- 11 *ECA* no. 45, PP354–5; E. Baumgärtel, *Journ. Royal Anthropol. Inst.* 67 (1937), 236.
- 12 *ECA*, pl. 45, top left. This simple almond-cipher can be seen used as a unit on later Celtic goldwork, such as the coinage.
- 13 *ECA*, pl. 37 middle right.
- 14 The hollow-based curls on a frieze on the helmet from Tronoën in Brittany (*ECA* no. 141, pl. 30) could have arisen by routine copying from such a source as this Waldalgesheim armrings.
- 15 *ECA* no. 156 b. It is questionable whether this fine piece was really a guide-ring for the reins; it was mounted transversely, probably on the front part of the chariot, which thus takes on an aspect more ceremonial than military. M. E. Mariën (*La Période de La Tène en Belgique; Le Groupe de la Haine* (1961), 173) reasonably suggests that the Waldalgesheim horns (*ECA* no. 156 a) should be seen reconstructed as yoke finials (cp. also I. M. Stead, *Antiq.* 39 (1965), 260–2).
- 16 The patterns on some of the box panels alternating with enamel emplacements on the roll-surround (fig. 37:c) seem also to hover on the brink of 8-figure interlace, but never achieve it.
- 17 The design scheme with horizontal floor for the scenes also suggests a mirror-back source; the animalized manner of this open work seems to call for some sort of animal heads to finish it at the top (fig. 37c). The openwork manner should be seen against the early tradition of Celtic girdle-hooks, *ECA* nos. 356–364; if it were not for the mount ornament this openwork might be taken for an earlier work in the grave, a contemporary of the heirloom flagon *ECA* no. 387.
- 18 W. Lamb, *Greek and Roman Bronzes* (1929), pls. LX, LXXXI.
- 19 *ECA* p. 162; this is brought out more clearly in the diagram (fig. 37b) than it appears in the photographs.
- 20 *Prähist. Zeitschr.* 43–4 (1966), 149, pl. 14.1.
- 21 *ECA* nos. 115, 116, 117, pl. 247c (spearhead).
- 22 For instance, the Late La Tène shield-boss roundel from the Thames at Wandsworth, and earlier the Witham shield (*Problems of the Iron Age in Southern Britain* (ed. S. S. Frere 1961: London Univ. Inst. Archaeol. Occasional Paper 11), pl. VI.
- 23 As the scabbard from Filottrano grave 22, *ECA* no. 103, P434.
- 24 *ECA*, 93–4.
- 25 *ECA* no. 401; *Prähist. Zeitschr.* 25 (1934), 62 ff.
- 26 *ECA* PP450a, b, 459–461: no 377. For full publications of the Comacchio bronzes, *Prähist. Zeitschr.* 25 (1934), 62–104.
- 27 *ECA* pl. 70; J. M. de Navarro, *BRGK* 40 (1959), pl. 12–14, 16–19.
- 28 K. Bittel, *Die Kelten in Württemberg* (1934), pl. 15; W. Krämer, *Das keltische Gräberfeld von Nebringen* (Stuttgart 1964), 20; pl. 5.
- 29 *ECA* no. 44; *ECA* pp. 144, 125.
- 30 *Journ. Royal Anthropol. Inst.* 67 (1937), 236; Grave II at Filottrano did contain this bowl with the wrestlers rim-mount; see n. 18. Other contents of this grave do not help much to fix its date more precisely.
- 31 *ECA* P82, p. 69. The ornament on the Filottrano torc is southerly also in that it

- comes nearer to the classical feeling for such flowing patterns as organically growing stems with outgrowths that can be lopped without damage to the main stem (*ECA* 93). Trumpet flowers are seen at their simplest as spandrel-fillers set in the  $\Psi$ -axils of the broad S-figure on the ring from Etoy, *ECA* no. 74.
- 32 F. R. Hodson, *The La Tène Cemetery at Münsingen-Rain* (1968), 102, 121. Compare also the ornament on a similar brooch from Deisswill (J. Filip, *Keltové ve střední Evropě* (1955), 79.
- 33 Hodson, *Münsingen*, 95.
- 34 *ECA* no. 47.
- 35 J. Filip, *Keltové ve střední Evropě* (1955), pl. XX: 1, 2.
- 36 *Prähist. Zeitschr.* 43–4 (1966), 149, pl. 14:1.
- 37 *ECA* nos 45, 56; British Museum. Interpretation of these pieces is now carried on a stage beyond *ECA* pp. 153–4.
- 38 C. F. C. Hawkes, in *Antiq. Journ.* 20 (1940), 346 ff.
- 39 J. W. Brailsford, in *PPS*, forthcoming.
- 40 D. F. Allen, in *Problems of the Iron Age in Southern Britain* (1961), pp. 99 ff.
- 41 R. R. Clarke, in *PPS*, 20 (1954); and subsequent finds at Snettisham and Sedgford.
- 42 P. Jacobsthal and E. M. Jope, *Early Celtic Art in the British Isles* (forthcoming), chapter 6.
- 43 See note 8.
- 44 F. R. Hodson, *The La Tène Cemetery at Münsingen-Rain* (1968), 24, pl. 123.
- 45 *Bull. Inst. Archaeol. London.* 4 (1964), 133 ff.
- 46 W. Krämer, *Das keltische Gräberfeld von Nebringen* (1964), 29, pl. 5, grave 18.
- 47 There is evidence of Celtic metal-working in this region (*ECA*, 155) but no actual workshop site has been excavated.
- 48 D. E. Strong, *Greek and Roman Gold and Silver Plate* (1966), 15.
- 49 *ECA*, p. 162.
- 50 Even more should this apply to the term ‘pure Waldalgesheim Style’ – *ECA*, 154!
- 51 The ornament of the Besançon flagon and its confrères (O.-H. Frey, *Au Musée de Besançon: Ann. Litt. Univ. Besançon* II, (1955), 4–30) would represent another facet within this classic age.
- 52 C. F. C. Hawkes, in *JRS* 37 (1947), 196, in a review of *ECA* filled with cogent comment.

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From Urartu to Gundestrup: the  
agency of Thracian metal-work

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The rôle played by Urartian enterprise at Levantine ports for a period in the early and mid-eighth century B.C., and then the dispersion of artists and craftsmen as a result of Assyrian aggression, have been shown as a principal means by which Orientalizing decorative arts, and technical skills, were first propagated throughout the commercial world of Greeks and Etruscans.<sup>1</sup> In the west, Urartian objects reached Italy, and Etruscan no less than colonial Greek artificers turned out reproductions and adaptations that gave currency not only to new shapes in metal vessels, but to a wide range of ornamental innovations including griffins, ferocious lions, serpents, and winged goddesses. The specimens that have best survived to bear witness to this second stage are those objects of amazement and luxury that came finally to rest in barbarian tombs beyond the Alps, and it must be sufficient to recall the Grächwil hydria, the lebes with griffin protomes and tripod stand from Ste Colombe, the Vix krater, and a more recent discovery, the ivory carvings including a sphinx with amber face, from Asperg.<sup>2</sup> It had not been until the course of the sixth century that trans-Alpine barbarians had opportunity to become acquainted with these novelties. The attendant circumstances involving the varying fortunes of the Phocæan city of Massilia, and the development of Etruscan trade through that city, or over Alpine passes, require no restatement here.<sup>3</sup> It is more relevant to the purpose in hand to point to the lack of response to Orientalizing motifs among Celtic patrons and craftsmen, bearers of Late Hallstatt culture, in their strongholds between the upper Danube and the Seine. Can it have been that fabulous beasts and winged horrors drawn out in all their detail, appeared too potent to Celtic eyes, or was it that they lacked relevance to Celtic iconography in contrast to their evident appeal to Mediterranean imaginations? It is certain, however, that in the following century, the Celts brought forth an art style that speaks of an essential opposition to imitation however greatly the stimulus of exotic encounters had been sensed.<sup>4</sup> La Tène art included few ferocious animals nor did they survive the early phase. Even the handle-animals of Celtic-made beaked flagons have an air of fantasy rather than aggressiveness, and gentler creatures, sheep and birds, find understanding treatment in such famous pieces as those from Klein Aspergle, Rodenbach, and Panenský Týnec.<sup>5</sup> Claws and fangs formed no insignia of magical potency if one may judge from the

archaic mythology of later Celtic peoples so that there is little, if any, ground for supposing a climate of acceptance for a lingering Orientalizing animal art among Celtic tribes north-westwards of the Alps, along the Rhine, or anywhere in Gaul. When La Tène art faded out, the flowering of Gaulish coinage provided an art form reflective of changing times, but the iconography was expressive of abiding Celtic attitudes, and the homely horse and hog never gave place to exotic creatures of the kind viewed in multitude on the Gundestrup cauldron. Even Gallo-Roman iconography, in bronze and stone, prolonged in a more naturalistic manner a purely Celtic tradition.<sup>6</sup>

The Transalpine world of the Celts and neighbouring peoples in the sixth and fifth centuries B.C. was of course potentially accessible, if not quite open, to other lines of contact with Oriental art than by way of Massilia and the central Alpine passes. In a foregoing paper, John Boardman, in considering the sources of Situla Art, shows that the rôle of the Adriatic has been insufficiently understood in studies overshadowed by the wealth of Etruscan possibilities. It now emerges that the Adriatic route to lands around the head of that sea was already operative in however small a way in the seventh century B.C., and by early in the following century there is good evidence for the influence, if not actual participation, of craftsmen trained in peripheral Greek workshops around the maritime approaches in the south. It was thus possible that in the upper Adriatic region, and in those provinces of native metal-working best known under the banners of Este and Vače, creatures of ferocious and fabulous aspect can have been held enmeshed inextricably as to whether brought in directly by sea, or overland from Etruscan menageries.<sup>7</sup> At a further remove, in the province that saw the birth of La Tène art in the fifth century B.C., it remains very difficult to distinguish an Adriatic contribution in anything that can have been more strongly offered by the Etruscans.

It would seem clear, however, that Greek and Etruscan agencies for Orientalizing animals reaching the Celts by any of the routes now listed had long failed to be effective when, in the third century B.C., new and undisguised Orientalizing animals made their appearance in Jacobsthal's Plastic Style of La Tène art, and then others followed rather later to show themselves quite blatantly on the surfaces of an object that is part-Celtic in context but never La Tène in style: the silver cauldron from Gundestrup.<sup>8</sup> All routes have, however, not been closed and if the true contribution of the Adriatic has not yet been fully revealed, even less consideration has been given to the potentialities of those middle and lower Danubian lands stretching away to the Black Sea and to Anatolia: thresholds of the great centres of Oriental civilization. Insofar as Gundestrup is concerned a short cut might be made by way of pin points on a stylistic map accrued over half a century since Drexel's magisterial study in 1915, but this would be no more convincing than have been many subsequent

'interpretations' by means of stylistic comparisons of isolated motifs taken out of context.<sup>9</sup> A face is usually a face in any idiom. In offering homage and sincere recognition to Christopher Hawkes for his precepts in approach to problems of European prehistory, and for his generous dispensations from the Cauldron of Knowledge over many years, the present writer brings forward a case for an assessment of the Gundestrup cauldron that requires a much wider, and chronologically deeper, stage for the unfolding of the matter than that on which its component figures have as yet been allowed to move.

From the viewpoint of those conditioned geographically to look back at European prehistory from the north-western periphery, the occurrence at almost any chronological horizon of 'eastern' manifestations tends to carry implications of suddenness, and of disturbances among the peoples. The accuracy of this interpretation of mute artifacts has been much discussed in recent years, and not without unfortunate modern undertones. Justice can only be attempted on the merits of each particular case, but an improved body of evidence may so alter what appeared to have been clear cut propositions, for and against, that the original issue may be found to have been illusory. Such a situation may now have to be contemplated in regard to 'eastern' elements manifest at the end of the Late Urnfield (*alias* 'Hallstatt B') of Middle Europe. It will be recalled that Merhart's maps of fine bronze-work showed a much larger common technical province for this culture during approximately the ninth and eighth centuries B.C. than came to be the case in the seventh and sixth centuries B.C. when the province had shrunk to the effective north Alpine zone of the true iron-using Hallstatt culture.<sup>10</sup> An advent of hostile horse riders of eastern origin, whether 'Thraco-Cimmerian' or 'pre-Scythian', was generally accounted responsible. At the same time it has had to be admitted that the newly appearing bronze horse-gear, undoubtedly with Oriental prototypes, has been found in association with native fine bronze-work over large tracts of the Late Urnfield province. If, then, native Late Urnfield craftsmen worked for hostile intruders, and produced versions of exotic horse-gear for them, why did this arrangement not continue in Hungary and other easterly parts of the Urnfield province that came to be lost? An explanation of this horse-gear in Middle Europe, devoid of putative horsemen with hostile intentions, is not now so difficult to put forward if new suggestions are accepted that the Late Urnfield bronze industry had been open to eastern influences, technological and commercial, for some time prior to its contraction and end.<sup>11</sup> Excavations at Phrygian Gordion in north-western Anatolia, have greatly enlarged comprehension of the range and style of bronze-work in yet another intermediate zone between Urartu and Europe.<sup>12</sup> There is now good reason to believe that within the Late Urnfield bronze industry the type of handle attachment for cauldrons,



known as 'T-handles', was a modification through Phrygian channels of the siren-with-spread-wings type of handle attachment produced initially in Urartu.<sup>13</sup> The question must also be entertained, although not yet answered, if the 'larger-boss' style characteristic of Late Urnfield beaten bronze-work should in part be ascribed to this quarter. It seems clear from the evidence of hoards and other closed finds that the innovations mentioned were introduced into Middle Europe at somewhat different times during approximately the ninth and eighth centuries B.C. Another single example of adopted exotic style was the Caucasian type dagger with iron blade and openwork bronze hilt. The distribution stretches as far west as Moravia and here, as Podborský states, the associations are hoards not graves as in the Caucasian region. A recently analyzed find shows that the bronze of the hilt was of a composition commonly used for different objects in and around Moravia.<sup>14</sup> The introduction of timber-built burial chambers under great tumuli, with certain equine implications such as harness, yokes, and vehicles, but no actual horse graves, that are characteristic of Hallstatt C, and its affiliated cultures in Bohemia and Moravia, probably point to the enriching interchanges of a period of prosperity, while the painted pottery styles of these cultures may also have been inspired by Phrygian fashion.<sup>15</sup> It can hardly be supposed that all was peace from the Alps to the Black Sea throughout the hey-day of the Late Urnfield culture, but the real break together with the contraction of the province, came with a quite different onset of horsemen equipped with distinctive iron horse-gear and weapons, and at first, seemingly, very little else. A period of fluidity lasting about a century must be envisaged during which time the emergence of long Hallstatt iron and bronze swords perhaps best symbolize the consolidation of the native defenders' reduced eastern marches. It was not until about the mid-sixth century B.C., that the intruders along the middle Danube became sufficiently settled to indulge in a degree of elaborate burial rite sufficient for archaeological recapture. At this horizon the distinctive equipment of the intruders is first fully demonstrated. The bridle bits have cheek-bars rivetted to the outer ends of the mouth-piece, and weapons include shaft-hole battle axes, and double and single edged short swords and daggers. The whole range is clearly under strong Scythian influence or sharing in some common, perhaps Median, source. In this context appear true horse burials with single warriors, but not evidently within timber-built chambers. There is considerable variation in burial rite as illustrated in recent excavations such as those at Szentes-Vekerzug close to the Tisza in eastern Hungary, Chotín in south-west Slovakia, and at Ferigile in Oltenia.<sup>16</sup> Old excavations and plunderings in tumuli in Slovenia, and adjacent parts of Austria, have produced related phenomena, and Gabrovec has defined his third horizon of the Iron Age sequence in Slovenia in terms of 'Scythian influence' perhaps best exemplified in the warrior and horse grave Magdalenska Gora II/13. Gabrovec makes the valuable comment that between the

appearance of the so-called 'Thraco-Cimmerian' horse-gear and the iron types of Scythian aspect there had been time for the production of entirely local types.<sup>17</sup> In contrast to the contraction of the Late Urnfield province north of the Alps to that of Hallstatt C, centred in Bavaria and Bohemia-Moravia, it is interesting that in Slovenia cultural and industrial continuity was maintained, and was capable of absorbing the new warrior element. Perhaps the Illyrians, if such they truly were, had to do with less ragged marauders who knew well how to take advantage of a rich territory. To what extent the population of Slovenia had been augmented by settlers from the Balkans during earlier phases of Gabrovec's scheme cannot be discussed here although this possibility should be kept in mind. A significant cultural trait that is widespread in this context, from at least the later part of the sixth century B.C., must be mentioned. This is the presence of pottery styles including distinctive biconical jugs with high handles, both wheel-thrown and hand-made, of definite Thracian connection, and known over the whole Thracian territory virtually from the Rhodope Mountains to the eastern Alps and the Little Carpathians. The wheel-thrown pottery is now recognized as having developed from borrowings effected by native potters from Greek practice at centres along the western coasts of the Black Sea. There is no longer any question of the Celts having introduced this craft to populaces in the Carpathian Basin in the late fourth and early third centuries B.C., as was for long taught. There were indeed many technological lessons to be learnt, rather than imparted, by the Celts on entering this geographical quarter.<sup>18</sup> Whether or not this new element in Middle Europe and the northern Balkans had been driven westward, or was interpenetrated, by expeditionary Scythians of the true sort is a secondary matter so far as strict archaeological evidence is concerned. It seems best, however, to accept the simple label of 'Thracian' for this whole complex as Dušek has done in his important discussion of the background of the cemetery at Chotín. The central decades of the sixth century B.C., may thus be said to have seen the consolidation of various cultural zones in Middle Europe that correspond in general to ethnic designations first propounded by Greek geographers. To the north of the Alps was the Hallstatt culture, now with a flourishing iron, and salt, economy, and peopled mainly, but not exclusively, by the Celts. Eastwards, on the plains, were Thracian peoples, and perhaps occasionally more oriental intruders. It is hard to find a purely archaeological definition for these that might correspond to Hallstatt. There are so far only some relatively local terms: Kustanovice, Vekerzug, Ferigile, and Dobrina. Scythian material elements are certainly in evidence, and the beginnings of Greek Black Sea contacts.<sup>19</sup> Then as a vital link between these two there existed in the south-east Alpine and Slovenian region what may be best called the Vače culture-province, rich in its own metalliferous and agricultural resources, open to the Adriatic and to northern Italy. This province was peopled essentially by Illyrians but evidently with some

Thracian overlordship who perhaps soon lost their identity in this richer environment. The importance of the Vače province has become ever clearer, with an increase of definitive publications, as a medium for contacts, and as a guide to chronology bearing not only on Hallstatt but also on Thracian archaeology, and some new and very promising openings are beginning to appear. The most revealing of recent discoveries has undoubtedly been that at Ártánd, close to the eastern frontier of Hungary, and some 45 km south-west of Debrecen. The site was on a gravel terrace of the Kőrös river, and the discovery was accidental to industrial gravel digging. Parducz has given a full account of the circumstances of various finds which included human cremations with horse skeletons in large pits, but the most important finds came evidently from one rich grave.<sup>20</sup> This grave delivered, among other things, a bronze hydria considered to be of early sixth century B.C. date and manufactured in Sparta. There was also a T-handled cauldron of Merhart type C, closely paralleled at Hallstatt, grave 696, and at Magdalenska Gora, in grave II/13.<sup>21</sup> Then there were Scythian, and near-Scythian, objects in profusion, and especially to be mentioned must be a curved iron shaft-hole battle axe, scale armour in bronze and iron, and bronze phalerae, one with a stylized horse head protome. In addition were gold beads, some with impressed animal decoration, a decorated gold strip 'diadem', gold-leaf rosettes, and other fragments of dress embellishment. A pair of gold bracelets with conical terminals and large granular blobs are best compared with similarly decorated earrings from widespread Thracian finds including Duvanlij. There were objects, possibly sheath or chape mounts, in bronze with triangular openwork patterns related to a widely known class of Thracian belt-clasp. A fragment of an iron bridle-bit of Vekerzug type adds further to this group of connections, but an Illyrian, 'Vače province', element is indicated by a type of distinctive long iron spearhead, a bronze winged axe, and a bronze shield-boss. Apart from the *terminus post quem* provided by the hydria, Parducz quotes recent Russian evaluations for the chronology of Scythian art that lead to a mid-sixth century B.C. date for the Ártánd find, and this view is certainly not contradicted by the necessarily vaguer dating offered through Magdalenska Gora, and Hallstatt. Parducz, in agreement with Szilágyi, who has made a detailed study of the hydria, shows that this vessel is unlikely to have reached its resting place from either the Pontic or Thracian Black Sea routes of Greek trade, but that the Adriatic had been the most likely means of conveyance. It does not certainly follow that the upper Adriatic was involved, in view of the absence so far of Greek bronze vessels in the very numerous graves that have been opened by one means or another within the Vače province. It is more tempting to 'look further south to some such starting point as Epidamnus, and thence to Lake Ochrid<sup>22</sup> (the tombs at Trebenište are famous for their Greek bronzes), and so to travel northwards within Thracian territory by ancient river routes to the Tisza. The lessons to be drawn from

Ártánd about the opening up of east-central Europe to Greek and Orientalizing influences, apart from Scythian questions, are clear enough, and they are of a different order than a Scythian, with Pontic Greek, resolution could provide for the mid part of the sixth century. As between east- and west-central Europe, the one predominantly but not exclusively Thracian, the other in like proportion Celtic, little exchange might be expected at this period so far as archaeology might apprehend it. Slovenia, however, provides evidence for a middle rôle sharing with both such paraphernalia as late T-handle cauldrons, single-edge curved knives, various kinds of spears, and winged and socketed axes.<sup>23</sup> From the point of view of Celtic awareness of more easterly peoples at this time, it may not be inappropriate to recall the timber chamber-grave with wagon (grave VI) in the great tumulus of the Hohmichele in Württemberg, in which had been laid equipment for archery including a quiver with iron tipped arrows.<sup>24</sup> Not distinctively Scythian, the flat hammered arrowheads nevertheless find parallels in the north Pontic region, and even Magdalenska Gora II/I3 contained one bronze specimen, although lacking the splayed tang of the Hohmichele missiles.<sup>25</sup> Some tenuous contact is surely to be suspected, and it may be further asked if silken threads had held it as they were indeed the greatest of surprises worked into textiles in that Hohmichele wagon-grave.

Before the close of the sixth century B.C. an event took place that greatly strengthened Orientalizing art styles in the Greek and barbarian south-east European sphere. The great expedition of Darius I against the Scythians in 513–12 B.C., the subsequent establishment of the satrapy of Skudra in Thracian territory, and the concluding episodes of Achaemenid occupation under Xerxes in 480–79 B.C., provide the historical framework.<sup>26</sup> A repercussion of these military events may be such evidence as there is for Scythian raiding and strong-hold destruction deep into the Hallstatt province as most recently discussed by Piggott.<sup>27</sup> At all events, the thirty years of Achaemenid presence, and the great wealth of booty passing through barbarian hands on the withdrawal of Xerxes, cannot but have had new formative influences. N. K. Sandars has shown that certain Orientalizing traits discoverable in the Early Style of La Tène art, which Jacobsthal could not account for through Greek, Etruscan, or Scythian media, may be more closely understood in Achaemenid terms. More important for the present study, she has emphasized the part played by Anatolia, itself at this time a Persian satrapy, as a repository for antiquated art styles that were somewhat later to be adopted to Thracian use.<sup>28</sup> Most outstanding of actual Achaemenid pieces from Thrace is the silver amphora with winged animal handles from the Kukuva tumulus in the Duvanlij cemetery.<sup>29</sup> This vessel is probably of the time of Xerxes although buried somewhat later. A grave of the late fifth century B.C., at Dalboki near Stara Zagora, included a pair of tall silver beakers that may be Greek provincial or local in manufacture, but which carry on an old Iranian

tradition in shape, and to some extent in decoration.<sup>30</sup> The Dalboki beakers are similar but not identical. Both are attractive pieces for the simplicity of their shape, and the firm execution of their linear decoration. Both show a continuous palmette and lotus band, differently drawn in each, immediately below the rim. Such work would have been very acceptable to Celtic eyes had it been available in time and place. The smaller of the two beakers (pl. 26) displays below this band a single line of ornament derived from the old Oriental motif of imbricated feathers, and below this again a single line of guilloche recalling not only numerous Oriental prototypes but similar borders in native work at Trebenište, and at the head of the Adriatic in Situla Art. These must re-enter the discussion again as they should be older by at least a century than the Dalboki grave. Around the foot of each Dalboki beaker is a three-deep repetition of the imbricated feathers motif. The scarcity of material made available for serious study is indeed hampering, and it is necessary to turn next to the partly published finds from a rich barbarian tomb at Hagighiol in the Dobrudja. Berciu has recently summarized the nature and contents of this find which came to light in 1931.<sup>31</sup> It was a Thracian princely grave *par excellence* in a stone chamber beneath a great tumulus. A woman and three horses were provided for the illustrious dead, but of present concern are a pair of tall silver beakers and a silver-gilt helmet, all three bearing in a distinctive if ungainly style a series of animal portrayals anticipatory of Gundestrup. A pair of silver greaves of a type to be met again in Thracian contexts and Attic red-figure pottery indicate a date for the tomb c. 400 B.C. These silver pieces from Hagighiol, together with an almost identical helmet now in Detroit and a beaker in New York (pl. 27), both probably from this or some neighbouring tomb, bring together nearly all the technical and decorative elements which were necessary for the creation of such a fantasy as the component parts of the Gundestrup cauldron.<sup>32</sup> Another closely related piece is the gold headdress, helmet, tiara or hat, found at Poiana-Coțofenești, Muntenia, and recognized long ago by Fettich as an unquestioned exemplar for the animal style of the Gundestrup cauldron.<sup>33</sup> What then is the nature and origin of this Thracian metal-work that is so clearly not directly inspired by Achaemenid art yet shares some parentage with it, more so than with other, Greek, Etruscan, or Scythian, end-products of Orientalizing influence? The waisted silver beakers are the most diagnostic among the pieces available for, both in their shape and ornamental subject matter, they bid comparison with tall beakers in gold and silver from Amlash, Marlik, and other Iranian finds dating to the ninth and eighth centuries B.C.<sup>34</sup> In this older and much more distinguished metal-work a waisted shape is dominant, and animals, natural and mythical, in repoussé with chased finishing in worked-over coats and pelts, as well as abstract borders, all combine to provide an impressive range of prototypes. As between these 'Mazanderan' pieces and Hagighiol much has been lost in the deteriora-

tion of style during intervening centuries, and Seton Lloyd's comment on Neo-Hittite sculpture as conveying 'an impression of over-confident ineptitude' could well apply to Thracian animals.<sup>35</sup> Both indeed may share some common Anatolian constriction. On the other hand, it cannot be denied that the craftsmen who wrought these pieces of Thracian metal-work possessed a considerable range of technical skills. It is the clumsiness of the drawing, and evident misunderstanding of the subject matter that further merit Minns's dismissal of 'styleless Thracian work'.<sup>36</sup> There is, however, one apparently clumsy device that provides an important clue to a contributory source, and which is prolonged into the Gundestrup repertoire. This is the method of showing animal feet, whether hooves or claws, not as bearing the weight of the body, but as dependent or tip-toe. Hanging feet or claws will be the description hereinafter employed. Neither in Assyrian, nor in Iranian either Mazanderan or Achaemenid, art does the device of hanging feet appear to be known. Animals all stand or move firmly, but in some few Urartian pieces the hanging mannerism had begun to appear. The frieze of bulls on the bronze shield of Sarduri II, found at Karmir Blur, show some of these beasts walking on the forward edge of their hooves, and it may be noted in passing that their bodies convey that stolidity which comes out again in both Neo-Hittite and Thracian work.<sup>37</sup> This shield dates to the mid-eighth century B.C., but the clearest example of hanging feet, older than the Thracian pieces, is given in the gold leaf sheathing of the iron battle axe handle-shaft from the famous Scythian grave at Kelermes in the Kuban.<sup>38</sup> This is a very well known object, but photographs are seldom sufficiently large or clear to show all details of the animal ornament. Line drawings recently published by Jettmar confirm that, interspersed with sitting and properly standing animals, are several others with hanging feet (fig. 41). These include boar, goat, and stag. The convention of drawing stags' antlers on the Kelermes shaft is also of value for subsequent appearances in the 'Nearer West', showing as they do both paired and single antlers with tines projecting on one or both sides of the branch. The Kelermes shaft is not now considered to be Scythian work, but Urartian, or a close copy thereof, and in either case contributory to Scythian art as such.<sup>39</sup> Hanging feet were not adopted in Scythian art so that the patterns for this mannerism must have been prolonged in the Urartian homeland or in areas of residual tradition elsewhere. The date of the Kelermes tomb appears to lie within the first or second decade of the sixth century B.C., and is thus probably a little earlier than the graves at either Ártánd or Hohmichele, landmarks in the earlier stages of this discussion. At this point two rather more general observations must be interposed. First some mention ought to be made of the problem of intermittency of archaeological survival in relation to stylistic implications for continuity and longevity of ancient art traditions. It has been necessary already to glide from the ninth and eighth centuries to the mid-sixth, and late fifth, and to assume credence for the

argument. This problem was discussed by Fettich with particular reference to animal art, and he was able to demonstrate the almost rigid conservatism that tended to exist, and which he could demonstrate especially for the Pontic region right down to the end of the first millennium A.D.<sup>40</sup> The matter is rather different from such a

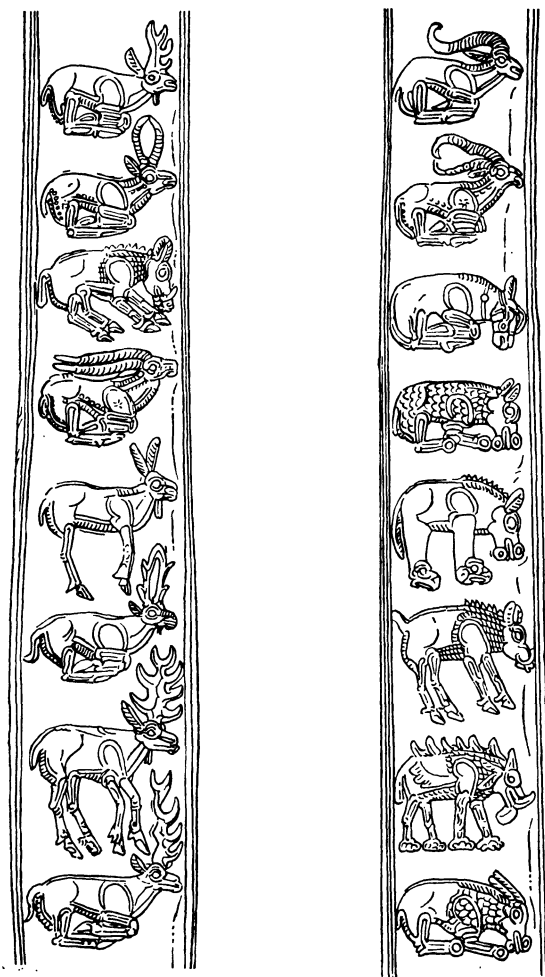


Figure 41. Animals on gold sheathing of battle axe handle from Kelermes, Kuban (after Jettmar)

case as Egyptian art which continued in one highly particularized natural and institutional environment for some three millennia. The tenacity and archaism of some Oriental metalworkers, and of their European borrowers, must have been due to factors of livelihood and craft instruction unaffected by military and dynastic turmoil which appear so catastrophic at the level of literary memorials. It cannot

anyway have been the high craftsmanship of royal centres, stimulated by dynastic successes each time to develop new styles, but provincial and peripheral workshops that slowly accumulated what has been new-fangled yesteryear at the centres of power and fashion.

The second observation is of more local application, and of a cautionary nature. A view has been favoured in these pages that it was the Persian presence in Thrace that led to a form of native art, exemplified at Hagighiol, incorporating archaic Iranian styles. It may be thought not without significance that evidence for Thracian metal-work of this kind exists only for the period subsequent to the Persian impact although Anatolia should have been available as an art reservoir during immediately preceding centuries. No doubt this was the case, but yet another route has probably to be recognized, and one which affected the western side of the Balkan peninsula, and Illyrians perhaps to the exclusion of Thracians. The silver beakers from Dalboki have been invoked, but it must not be ignored that a somewhat similar beaker with imbricated leaf or feather ornament came from one of the tombs at Trebenište, and there the context was in the order of a century earlier than that at Dalboki. D. E. Strong has remarked on the local form of the Trebenište beaker while observing that in style and manufacture it was purely Greek.<sup>41</sup> What was Greek in metal vessels in the late sixth century B.C. was largely the outcome of high Oriental influence at the beginning of that century. This, however, was not the line of Orientalizing influence stemming from the Levant, as cited at the beginning of this chapter, but rather it was the result of overtures by Anatolian potentates anxious to secure Greek allies against the Achaemenid menace. The gifts of Gyges, king of Lydia (c. 687–652) at Delphi illustrate the situation, and show how there could have come about a mechanism of release into Europe of versions of old Iranian and other obsolescent Oriental styles.<sup>42</sup> This factor involving Greek intermediaries may still not be so important for the tradition to which the Hagighiol silver-work belongs, but it may well explain the incoming of an artistic taste that found expression in the silver beaker from Trebenište. Furthermore, it can be seen how an Anatolian contribution of this kind, if introduced to peripheral Greek workshops around the lower Adriatic, might account for particular elements of Situla Art that are more Iranian in aspect than others.<sup>43</sup>

The Hagighiol and 'Detroit' silver-gilt helmets invite all manner of comment, but, apart from the stultified creatures on their cheek-pieces and floral arrangements on their neck-guards, notice of a zone of imbricated feather decoration around the base of the crown must suffice. The gold helmet from Poiana-Coțofenești, while lacking feather and floral designs, is of more interest in the present connection on account of its wider range of mythical creatures, and in the illustration on either cheek-piece of a ritual enactment. Stuart Piggott and N. K. Sandars have written



recently about Oriental aspects of this group of helmets, but it is not as headgear that their message is so relevant for Gundestrup.<sup>44</sup> Here attention is first claimed by two representations of Jacobsthal's 'Voracious Beast' that confront each other on the neck-guard of the gold helmet.<sup>45</sup> From the jaws of both hangs a victim's leg (fig. 42). This motif survived into the first century B.C., as will be shown, but took no place in

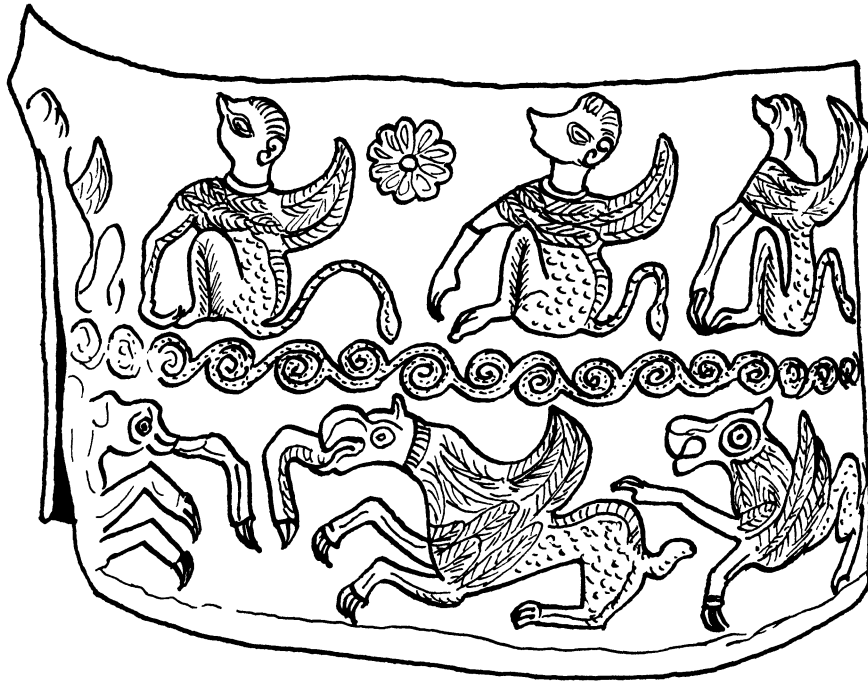


Figure 42. 'Voracious' and other beasts on neck-guard of gold helmet from Poiana-Coțofenești, Muntenia, Roumania (After Andrieșescu)

the Gundestrup repertoire. Its earlier history is found in Assyria, and it became popular amongst the Etruscans, and occurs in Situla Art. Phoenicia was probably the intermediary so far as Italy and the Adriatic were concerned, but the Voracious Beast must surely have lurked on in Asia Minor to appear in a Thracian idiom not only on the Coțofenești neck-guard, but in high relief on the base of the Hagighiol beakers.<sup>46</sup> Connections are very close in all pieces concerned, including great round eyes and hanging claws. The pair of Voracious Beasts on the Coțofenești neck-guard occupy a lower register along with a similar creature deprived of a victim's leg. The upper register displays a row of three seated or squatting winged creatures, rather monkey-like with human faces, long forearms, and long tails. These, however, are surely direct, if run-down, descendants of the sphinxes on a gold beaker from Amlash.<sup>47</sup> The cheek-pieces of the Poiana-Coțofenești helmet show a ram being sacrificed by a

man who kneels on its body and is about to cut its throat with a short knife (fig. 43). There are slight variations in workmanship from one cheek-piece to the other, but it may be said that the man is clothed in a short tunic with short sleeves, and from his shoulders hangs a short cloak. A pointed cap covers his head, while legs and feet are bare. The iconography is of great interest, and N. K. Sandars has suggested in this a



Figure 43. Sacrifice of ram on cheekpiece of gold helmet from Poiana-Coțofenești (After Andrieșescu)

possible prototype for the Mithraic cult.<sup>48</sup> Environment and affluence might well account for a change to a larger beast in the species offered, and a similar interpretation of the bull-slaying episode on the base plate of the Gundestrup cauldron has been put forward by De Laet and Lambrechts.<sup>49</sup> The depiction of the sacrificer's body merits attention. It is a front view with head and legs seen from the side. Only one arm can therefore be shown related to a shoulder, and the other arm, an attenuated little member, merely sticks out as from behind the same shoulder. The depiction on the right cheek-piece gives the impression that it is the left hand that holds the sacrificial knife, but can one dare to reverse the convention to insist that the left hand still performs the same act on the left cheek-piece? The essential point for Gundestrup is, however, this deformation of the upper limbs of the human body arising from limitations of apprehension in figure drawing. The silver greaves from the Hagighiol tomb provide a link with a large group of work in precious metal from rich Thracian funerary deposits, mainly south of the Danube, and dating to the fourth and third

centuries B.C. Hellenistic craftsmanship is now dominant, but not exclusive. Important in the present quest are repoussé faces on the upper part of these greaves with strongly marked ovoid eyes, and pursed mouths. The single greave from the recently discovered tomb at Vraca shows that insets were intended for the eye pupils as in the Hagighiol specimens, but the Vraca face further introduces a wreath of ivy leaves across the forehead, and horizontal barring, in gold leaf, across the right side of the face.<sup>50</sup> This facial treatment, presumably supporting Greek notices of Thracian tattooing, immediately recalls the face on a fragmentary silver vessel from Mastjugino, Voronesh, in which both cheeks display barring, and the same strongly marked features recur.<sup>51</sup> The vessel itself is flask-shaped with a gadrooned base, and a plain concave neck (fig. 44). The face occupies most of the wall of the slightly swelling



Figure 44. Silver vase from Mastjugino, Voronesh. Restored (After Manzewitsch)

body, and there is an elaborate hair arrangement of alternating hatched triangles. Both in execution and concept this vase must also be regarded as a significant example of a school of silver-work contributory to Gundestrup. The fragmentary condition of the vase does not permit deductions as to whether other faces can have looked out from its body. Its find-spot in the Ukraine does not weigh against Thracian origins

for there is other evidence of interchange perhaps even at the hands of Greek traders.<sup>52</sup>

The Vraca tomb has provided other useful connections. Ten silver harness ornaments lead to that group of mainly fourth century animal art widespread from Krasnokutsk to Magdalenska Gora, and best known through four-headed 'whirls', but including more elaborate and varied subjects.<sup>53</sup> The animals are highly stylized, almost geometric in construction, and Jettmar has commented on the simplicity of their lines. These, which are generally deep and bold, enclose smooth slightly swelling surfaces, and are themselves bordered with fringe-like edges. It would be fruitless here to go into the question of whether this was a purely Scythian style or one shared with the Thracians. It was certainly of importance for the origin of some motifs in the 'Sword Style' of Celtic art especially regarding *Drachenpaare*.<sup>54</sup> The finds from Craiova, Oltenia, from a grave not a hoard, are among the best known of this group, and here were also found gold appliqué bulls' heads which usefully bring in the iconography of this animal.<sup>55</sup> In the remarkable find from Letnica, near Loveč, north-west Bulgaria, a griffin-headed triskele in the 'Craiova Style', made in gold, was associated with hitherto unparalleled silver-gilt plaques with most varied human and animal subject matter.<sup>56</sup> Pending full publication of this find, uncertainly grave or treasure, too close adscription to the fourth rather than the third century B.C. should be avoided. Some of the plaques bear illustrations of a mounted warrior shouting, spear throwing, bear attacking, and drinking. They would do well as illustrations of some crude northern epic of some eight centuries later. The Letnica plaques, whether these or others that show a griffin attacking a stag, a sprite astride a hippocamp, a phalera with eight horse heads, or a splendid, surely Scythian, gold lion and griffin locked in combat, all contribute valuable points in subject, style, and technique, that witness to the continuing strength of Thracian art, and to its direct bearing on the workmanship of the Gundestrup cauldron. There is no longer need to labour the stylistic argument, and other kinds of enquiries must at least be brought into light.

It is abundantly clear the stylistic correlations can do little if anything to fix a close chronology for the Gundestrup cauldron, but the vessel bears within its own body marks that infer certain limitations, and these must be noted before arriving at an understanding as to how such an object could have come to rest underground in Jutland. Leaving aside the opinions of Drexel, Rostovtsev, Jacobsthal, and Fettich, one may, in more recent years, agree with Klindt-Jensen that there is no obvious Roman influence, and with Piggott and Sandars, that the depiction of carnyx and spur bespeak usages that are unlikely to have been earlier than the end of the third century B.C.<sup>57</sup> All three modern authorities, for varying reasons, have suggested a

date about 100 B.C. This proposition is in line with the views of the older scholars cited, and is accepted here with some additional reasons to be explained. Turning then to the pre-Roman Iron Age of Denmark, it is clear that while Celtic La Tène contacts and influences were predominant from the third century B.C., the orientation of this cultural flow was aligned on the Elbe, perhaps even on the Oder, reaching back to mid-European Celtic territories, and not demonstrably, either by sea or land, to Gaul, that is to Celtic territory west of the Rhine.<sup>58</sup> The most obvious witness to Middle European connections is the bronze cauldron from Brå, Jutland, admirably expounded by Klindt-Jensen who demonstrated not only its Oriental heritage in shape and bull head protomes, but its position in Jacobsthal's Plastic Style of Celtic art with close affinity to ornamental bronze openwork from Brno-Maloměřice.<sup>59</sup> More recently, J. V. S. Megaw has strengthened the case for the Plastic Style being mainly the work of centrally located craftsmen.<sup>60</sup>

From this horizon to the termination of the Danish pre-Roman Iron Age, Celtic or Celtic-like, metal and pottery styles all show closer connections with Middle European La Tène material than with anything west of the Rhine. To insist on Gaulish derivations, in the latter sense, is to run contrary to geographical patterns, and to ignore the course of events along the Rhine where ever mounting turbulence and westward moving pressures are unlikely to have facilitated long distance portage of fine metal-work 'against the tide'. Gaul, like Denmark, at this period stood to receive examples of figured metal-work brought in by refugees and migrants from the shrinking central Celtic territories.<sup>61</sup> Even the Dejbjerg wagons are more likely to have arrived by the Elbe waterway than by any other route in their progress from a 'coach builder's' at some centre that happened also to contribute Danubian Celtic elements to Belgic metal-work.<sup>62</sup> A third general factor must have to do with the availability of silver in such quantity that large objects could be manufactured, and with the acceptability of this metal for decorative and ritual purposes. Here, again, the claims of the Danubian region are overwhelming in view of rich Transylvanian and Balkan resources, and the quantity and range of finished products of one sort or another. If time and material agree so also does opportunity. The Celts had already been pressing east and south in the fourth century, and an historical point is gained in 335 B.C., when Alexander the Great received a Celtic delegation. Delphi, in 279 B.C., was sacked perhaps a generation before the making of the Brå cauldron. The intermingling of Middle La Tène swords and ornaments with Thracian weapons and other goods in graves in south-west Oltenia, and north-west Bulgaria support historical indications at least for the late third and second centuries.<sup>63</sup> Much remains to be found out and clarified, but there can be little doubt that opportunities of give and take were so frequent that there could have been such results as the Brå and Gundestrup cauldrons, the silver cups from Møllerup, and such other rare pieces as

the great iron and silver torc from Trichtingen, Württemberg.<sup>64</sup> Scordisci and Boii may well have played their part in all this, but the real fount of silver-working and Oriental traditionalism remained in Thracian hands. Important for the second and first centuries B.C. is the rise of Dacian, or Géo-Dacian, silver-work characteristic of the Carpathian and Istro-Pontic provinces of Rumanian archaeology.<sup>65</sup> In general, this silver-work represents an outgrowth of older and more southerly Thracian practice which had itself changed under continuing Hellenistic influence, and had come to be part of a much wider 'Pontic' province in style and output. The silver rhyton from Rachmanlij with its frieze of dancing satyrs and ivy foliage, is third century B.C., or later.<sup>66</sup> This is of course a Bulgarian find, but north of the Danube is revealed the more barbarous silver-gilt rhyton from Poroina, Muntenia (pl. 28), showing seated and standing women.<sup>67</sup> Both pieces are useful in connection with Gundestrup, but it must now be doubted if available later work such as the silver-gilt phalerae from the Herăstrău hoard, or the similarly decorated silver-gilt fibulae from Coada Malului, and other sites, illustrate more than a prolongation of Thracian style into the first century B.C.<sup>68</sup> Here indeed an interesting historical factor comes in, for Burebistas, warlike unifier of the Dacians, seems to have been the cause for hiding many silver treasures including coins of native issues. Burebistas, in fact, is credited with a suppression of Dacian coinages in favour of a common use of the Roman *denarius*.<sup>69</sup> This activity is to be dated to the years before 60 B.C., but among silver hoards of those troubled years that of Sincrăeni should not here be passed by without a salute to its very archaic repertoire of motifs, worked on its pedestalled cups, including imbricated feathers, guilloche, and sprays of ivy.<sup>70</sup>

Space forbids a discussion of large silver phalerae exhibiting a strong animal style, and which may have been widely dispersed by Sarmatians although not peculiar to those people.<sup>71</sup> They represent but a new trade outlet from traditional Thraco-Pontic workshops, and naturally share with older pieces, including Gundestrup, many craft details and subjects. Mention must, however, be made of the silver-gilt phalerae from Galiče, Bulgaria.<sup>72</sup> These show women's heads in full face with hair tresses, and supporting birds, and are therefore of iconographical interest for Gundestrup. In these, the ladies' chests are decorated with an indented line, the hem of a garment (?), that harks back to a fashion sported by Urartian sirens.<sup>73</sup> Before turning finally to the Gundestrup cauldron, one remarkable manifestation of the use of age-old Orientalizing motifs surviving into the first century B.C. must be declared. This concerns the 'Biatec type' of silver coin issues minted in or near Bratislava, and considered to date to the decade c. 70-60 B.C., thus ending with the invasion of that region by the Dacians under Burebistas.<sup>74</sup> The variety of subject matter on these coins is considerable, and there are some dozen Celtic names in addition to that of Biatec. Roman coin types have been copied in some cases, but no Roman source can

have supplied the Voracious Beast still with a victim's leg in its mouth, nor lions with zigzag manes and open jaws of Scythian and Achaemenid recollection, nor other creatures with large hanging claws and coats worked over in the manner of the Gundestrup animals and all their Oriental forebears. It would seem that the Bratislava coiners had come in the last years of that Celtic *oppidum* to escape from some more easterly quarter where, in a now vanished Celtic milieu, they had learnt from ancient pattern books that were more suitable for silver repoussé work than for die-cutting. This point would also seem to converge on the *terminus ante quem* for the making of the Gundestrup cauldron, and for the locality of that making.

Klindt-Jensen's great study in 1950 of the Danish Iron Age, which incorporates an extensive treatment of Gundestrup and other cauldrons, provides a generally accessible source of reference although, regarding Gundestrup, it will have become

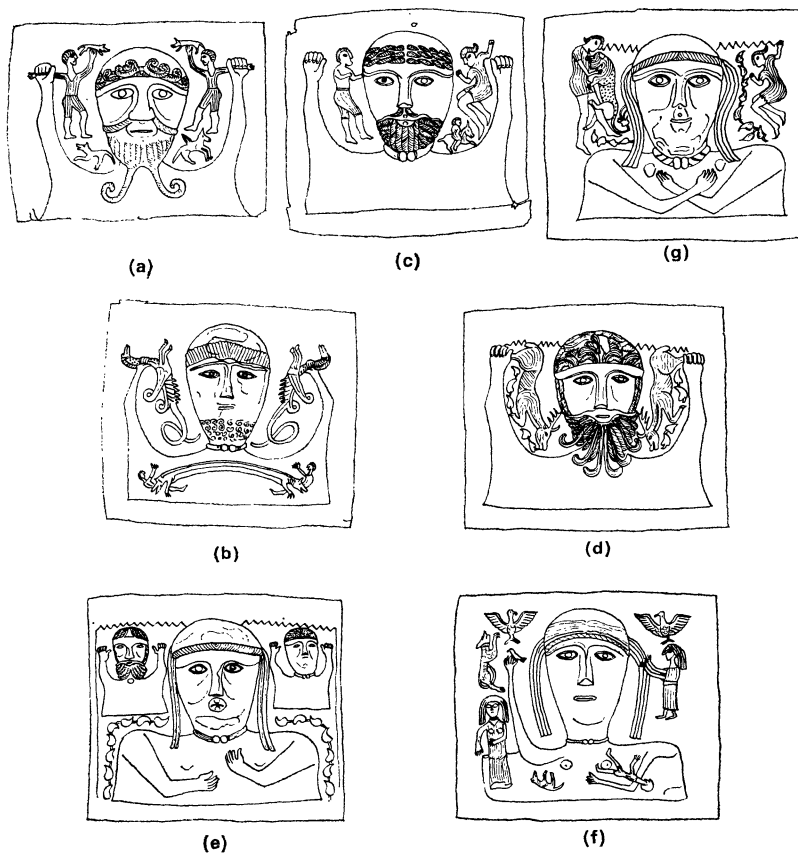


Figure 45. Gundestrup cauldron: outlines of outer plates following Klindt-Jensen's lettering, but rearranged

clear that all points of interpretation are not followed in these pages.<sup>75</sup> The letter references Klindt-Jensen gave for the component plates of the cauldron: *a-g* for the outer plates, and *A-E* for the inner wall plates, with the base roundel in addition, will be followed here for ease of recognition. At figs. 45 and 46 these are regrouped on a basis of closer iconographical affinity, but this is not to suggest a different, or any, sequence for reconstruction. No attempt can be made here to give a full description of each plate with adequate stylistic and iconographical analysis, but notes are offered on some points of current interest that may promote further discussion.<sup>76</sup> Of the outer plates, *a*, *c*, and *g*, hold in common supporting male figures dressed in the kind of garments also found on the inner plates. The dancing figures in *c* and *g* recall the Rachmanlij satyrs. The wrestling man and lion on *g* are Heracles and the Nemean Lion in a Greek context, but of older nameless Oriental origin. In *b* and *d*, the Master of the Beasts is celebrated, but of particular interest is the subsidiary motif in *b*: a

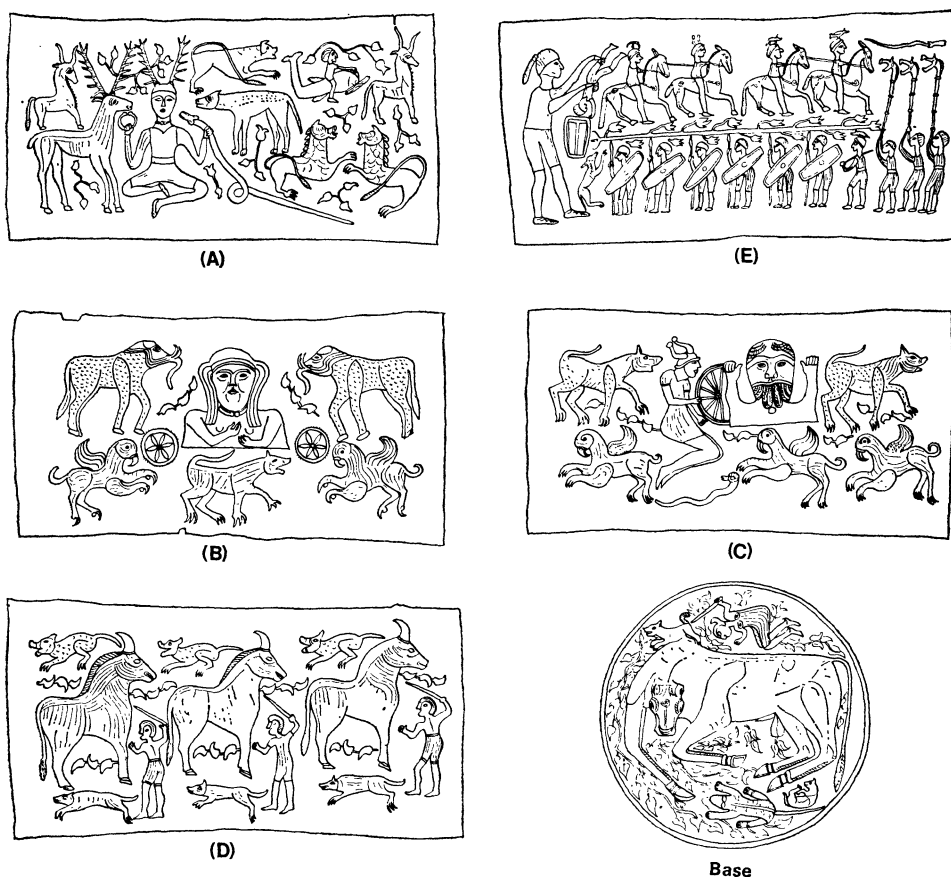


Figure 46. Gundestrup cauldron: outlines of inner plates following Klindt-Jensen's lettering, but rearranged



double-ended animal behind whose heads sit two gesticulating men (pl. 29). Double-ended beasts in post-Roman Teutonic art were but the end of a long story, and Stuart Piggott (p. 249f.) has made clear their earlier pedigree. Should not this double-ended animal with its attenuated bar-like body be understood for a 'fire-dog' in concert with Piggott's exegesis, and with the auspicious implications of the cauldron's iconography as a whole? This, too, must be regarded as a chronological factor. Plates *e* and *g* share male supporters for female personages, and also a peculiar dotted background with indented upper edge that perhaps recalls an Oriental and Thracian border edging. Plate *f* links with *e* and *g* in possessing a central female personage (pl. 30), but the attendant tirewoman suggests a borrowing from the Great Goddess of the Thracians, and the eagles, with their distinctive concave and straight leading edge to wings, clearly descend from the eagle on the gold vessel from Hasanlu.<sup>77</sup> The draped woman seated apparently on the right shoulder of the goddess owes something to a common source with the women on the Poroina rhyton. The goddesses' arms on plates *e*, *f*, and *g*, entirely exemplify the misshapen type already noted in Thracian silverwork.<sup>78</sup> The ball-terminal neck-rings worn by the personages on plates *b*, *c*, *e*, *f*, and *g*, are similar to that round the neck of the stone carved head from Mšecké-Žehrovice, Bohemia.<sup>79</sup> The inner plates are less unified in content, and display an even greater wealth of scrap-book subjects lavished with perhaps little regard to purpose other than embellishment. Plate *A* has become a sure target for every Celtic mythologizer, but there is no ground for believing, on the strength of a single defective inscription in Paris, that every Celtic horned god should be called 'Cernunnos' nor that this is certainly the true form of the name.<sup>80</sup> It must rather be sufficient to suggest that here is a divinity with shape-shifting powers seen in shamanistic guise with a selection of his manifestations and familiars around.<sup>81</sup>

The stag, and bulls, if such they are, have that stolid look that seems to have come out of Anatolia, and everything about the lions is Oriental even if Etruscan ones are pale cousins. The confronted pair of lions compare more closely with those single ones on the Evoiurix issues at Bratislava (fig. 47).<sup>82</sup> The hound or wolf on Plate *A* requires no special mention, but the fish with a sprite astride its back is no dolphin, nor need second-hand Roman exemplars be invoked. The fish, in the drawing of its head and upward swept tail, is a good attempt at the depiction of a sturgeon (*Acipenser sturio*). Plate *E* is the only one of which the composition can with any confidence be claimed as Celtic. The archaeology of the warriors has been fully discussed elsewhere, and Kimmig has provided an important and welcome analysis of the enactment especially in recognition of the sacred tree lying horizontally above the foot-warriors' spears.<sup>83</sup> Much yet can be won from the iconography of this plate, but a limit must be set here only to express a preference for interpreting the 'sacrificial' scene as a dipping of a warrior in the Well of Revivication as expressed in the

archaic Irish myth *Fled Goibnenn*.<sup>84</sup> The short, large-headed, ponies illustrate the Celtic type identified by Bökönyi from skeletal material at Manching, but the phalerae so clearly seen are no cultural or chronological indicators.<sup>85</sup> Phalerae were essential to leather horse-gear generally in antiquity, and were in use in Early La Tène contexts as witnessed by the cut-out bronze horse with rider from Kärlich, and by

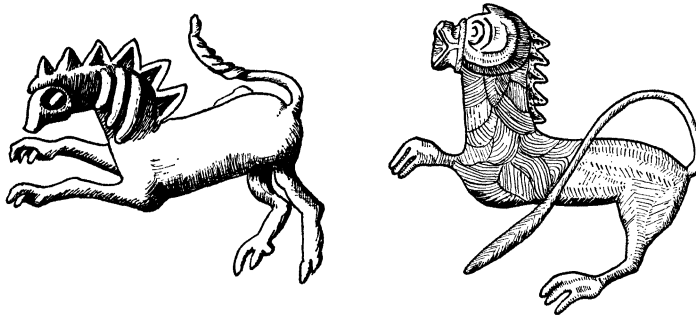


Figure 47. *Left*, Lion from reverse of EVOIURIX silver issue (After Ondruch)  
*Right*, Lion from inner plate 'A', Gundestrup cauldron

bronze phalerae recently studied by Dehn.<sup>86</sup> Their appearance in Roman cavalry outfits merely prolonged a common usage by eastern horsemen whom the Romans recruited.

Plates *B* and *C* go together for their busts of divinities, as on the outer plates, and for their griffins, and other animals. In *B* the elephants provide no great problem in terms of examples in Pontic silver-work, and the circular motifs may be a version of the rosette, another Oriental element perhaps of sacred significance. In *C* the right arm of the god does not grasp the wheel as examination of the original has revealed.<sup>87</sup> The knobbed horns on the attendant's helmet may be compared with those of the third rider on Plate *E*. The three bulls on Plate *D* show the massive structure that stemmed from Urartian and then Anatolian styles, but the triad composition of the scene is in a Celtic spirit (pl. 31), and recalls Irish myths in which monsters are assailed by triad heroes.<sup>88</sup> It would be difficult to claim a single Celtic inference in the base roundel. Everything about the great bull roused to defend himself speaks of the Orient both in iconography and style.<sup>89</sup> If a sacrificial enactment, it may be asked if it was intended that it should be viewed as from above the edge of a pit or small arena. Attention here must be confined to the man wielding what must surely be a single-edged sword. His face profile, with heavy nose running into the crown of the head, and his upturned queue of hair are features to be found in the male subjects on the Letnica plaques.<sup>90</sup> Both features will have been noted on Plate *g*, and in the dancing figure on Plate *c*, while the profile alone occurs in the other small figure on that plate, and in the swordsmen triad on Plate *D* (fig. 48). When the cauldron was found in the

peat bog at Gundestrup it was dismantled, and the various plates, which were carefully sought for, have been found not to make a perfect fit. It has been suggested that the decorated plates may have derived from some quite different setting such as a shrine or box, and that the pieces were mocked up as a cauldron for perhaps quite temporary purposes in connection with local ideas and rites.<sup>91</sup>

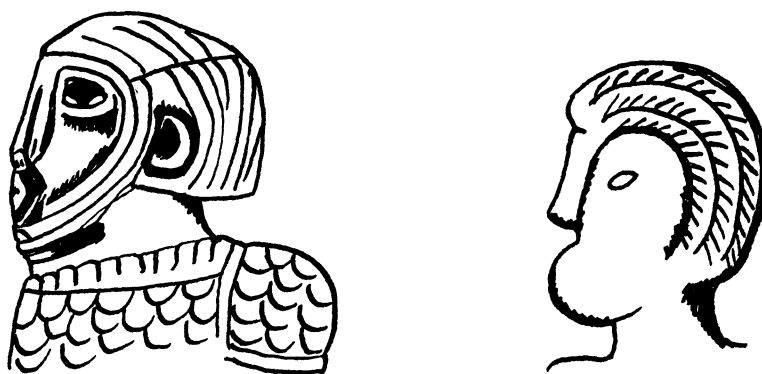


Figure 48. *Left*, Head from a silver-gilt plaque from Letnica, Bulgaria (After Venedikov) *Right*, Head from inner plate 'D', Gundestrup cauldron

This is certainly a matter that should be explored in greater detail, but the Gundestrup cauldron is not abnormal in shape in terms of the all too few surviving examples of La Tène metal vessels. The bronze cauldron fragments from Rynkeby, Funen, show that Gundestrup may have been exceptional only in degree of its substance and elaborate decoration (fig. 49).<sup>92</sup> No figured cauldrons are known to have

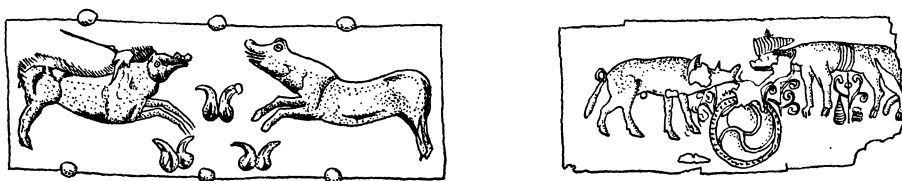


Figure 49. *Left*, Central panel of silver-gilt belt-plate from Loveč, Bulgaria (After Welkow) *Right*, Inner plate from bronze cauldron, Rynkeby, Funen, Denmark

survived in Celtic territory south and south-west from Denmark, but a small and plain bronze cauldron from Bölcske, Kom. Tolna (pl. 32), has been cited by Fettich as comparable in shape to Gundestrup.<sup>93</sup>

In the foregoing pages it has been thought necessary to review aspects of animal style art and fine metal-working over a much longer period, some six centuries,

than might appear strictly necessary for an appreciation of the background of the Gundestrup cauldron. The intricacies of time, place, and opportunity, have been found to be such as to justify no vague reliance on former things, but rather a seeking out of all contributory elements. The conclusion arrived at may be stated briefly as an affirmation of a date of manufacture about the turn of the second and first centuries B.C., in a place where Thracian versions of ancient Orientalizing art were still executed by craftsmen who were perhaps not exclusively Thracian or Celtic, and so their home can be narrowed down to those parts of Carpatho-Danubian Europe where archaeology must continue to explore the interrelations of these peoples.<sup>94</sup>

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### Notes

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- 2 Grächwil: H. A. Cahn, *Actes du coll. sur les influences hell. en Gaule* (1958), 21-29. Stuart Piggott, *Ancient Europe* (1965), pl. xxxiia. Ste Colombe: R. Joffroy, *Mons. Piot*, LI (1960), 1-23; *Inventaria Archaeologica* F.I; S. Piggott, *op. cit.* (1965), pl. xxxa. Vix: R. Joffroy, *Le trésor de Vix* (1954); J. V. S. Megaw, 'The Vix Burial', *Antiq.* XL (1966), 38-44.  
Asperg: H. Zürn and H.-V. Herrmann, *Germania*, 44 (1966), 77-102.
- 3 C. F. C. Hawkes, 'The Celts: Report on the Study of their Culture and Mediterranean relations', 61-79 in *Le rayonnement des civilisations grecque et romain sur les cultures périphériques*, 1965 (8 congr. internat. d'arch. classique); S. Piggott, *op. cit.* (1965), 187, and map fig. 105, 195, 212 n. 66 for consolidated bibl.; J. V. S. Megaw, *op. cit.* (1966).
- 4 P. Jacobsthal, *Early Celtic Art* (1944), (*ECA*); N. K. Sandars, *op. cit.* (1968), 226.
- 5 Klein Aspergle: P. Jacobsthal, *ECA*, nos 16, 17; W. Kimmig and H. Hell, *Schätze der Vorzeit* (1965), pls 117, 118.  
Rodenbach: P. Jacobsthal, *ECA*, no. 59; N. K. Sandars, *op. cit.* (1968), 234 and pl. 236.  
Panenský Týnec: P. Jacobsthal, *ECA*, no. 318; J. Filip, *Keltové v Střední Evropě* (1956), pls iv and v.
- 6 E. Thevenot, *Divinités et sanctuaires de la Gaule* (1968), for recent appreciation. L. Lengyel, *L'Art gaulois dans les médailles* (1954), for numismatic iconography.
- 7 H. Müller-Karpe, 'Beiträge zur Chronologie der Urnenfelderzeit . . .', *Röm.-Germ. Forsch.* 22, (1959), for Este; F. Starè, 'Vače', *Arheološki Katalogi Slovenije*, I, (1955), for Vače; O.-H. Frey, 'Der Ostalpenraum und die antike Welt in der frühen Eisenzeit', *Germania*, 44 (1966), 48-73, and 'Die Entstehung der Situlenkunst', *Röm.-Germ. Forsch.* 31 (1969).

- 8 Plastic Style: P. Jacobsthal, *ECA*, 79-103; N. K. Sandars, *op. cit.* (1968), 240-44; J. V. S. Megaw, *Präh. Zeitschr.*, XLIII/XLIV (1965-66), 96-166. For Gundestrup the basic studies are: F. Drexel, 'Über den Silberkessel von Gundestrup', *Jhb. Kaiserlich Deut. Arch. Inst.*, XXX (1915), 1-36, and O. Klindt-Jensen, 'Foreign Influences in Denmark's Early Iron Age', *Acta Arch.* XX (1950), 119-157. The latter author's *Gundestrup Kedelen*, Nationalmuseet (1961), is useful also for full illustration.
- 9 *Inter alia*: H. Norling-Christensen, *Aarbøger f. nord. Oldkyndighed*, 1954 (1955), 70-100, and *Analecta Archaeologica* (Festschrift Fritz Fremersdorf) (1960); O. Klindt-Jensen, *Analecta Romana Inst. Danici*, I (1960), 45-66; W. Holmquist, *Atti del VI Congr. internaz. sc. prei- e protoistor.*, I (1962), 329-59. These are well illustrated studies, but entertain argument and comparanda of restricted outlook.
- 10 G. von Merhart, *Festschrift Röm.-Germ. Zentralmus. Mainz*, II (1952), 1-71.
- 11 S. Piggott, *op. cit.* (1965), 210 n. 29 for bibl. to which add Gy. Gazdapusztai, 'Beziehungen zwischen den präskythischen Kulturen des Karpatenbeckens und des Nordkaukasus', *Acta ant. et arch.*, V, Univ. Szeged (1963), N. K. Sandars, *op. cit.* (1968), 211.
- 12 R. S. Young, *AJA*, 62 (1958), 139-54, *et seq.* for preliminary excavation reports; S. Piggott, *op. cit.* (1965), 159; N. K. Sandars, *op. cit.* (1968), 213
- 13 C. F. C. Hawkes and M. A. Smith, *op. cit.* (1957), 167; J. Boardman, *op. cit.* (1964), 84-6 and fig. 13; B. B. Piotrovskii (transl. and ed. P. S. Gelling), *Urartu, The Kingdom of Van and its Art* (1967), 36-43, fig. 27, pl. 13.
- 14 Vl. Podborský, 'Štramberska dýka . . .', *Arch. rozhledy*, XIX (1967), 194-220.
- 15 S. Piggott, *op. cit.* (1965), 175, 179, 184-5; N. K. Sandars, *op. cit.* (1968), 212; M. Pichlerová, *Slovenská Archeológia*, XVI (1968), 435-445, for remarkable decorated pottery from Nové Košariská.
- 16 M. Parducz, 'Le cimetière hallstattien de Szentcs-Vekerzug', *Acta Arch. Hung.*, II (1952), 147-172; IV, 1954, 25-91; VI (1955), 1-22; M. Dušek, *Thrakisches Gräberfeld der Hallstattzeit in Chotín* (1966); A. Vulpe, *Necropola Hallstattiană de la Ferigile* (1967).
- 17 S. Gabrovec, 'Zur Hallstattzeit in Slowenien', *Germania*, 44 (1966), 1-48.
- 18 M. Dušek, *op. cit.* (1966), 24-28; M. Cicikova, 'La céramique thrace', 341-4, in *Le rayonnement . . .*, *op. cit.* n. 3 above, and pl. 72, 3 and 4, for urn from Boljarovo, previously 'Pasakoi' cf. *CAH*, plates vol. III, 61b, VIII, 557.
- 19 P. Alexandrescu and V. Eftimie, *Dacia*, N.S. III (1959), 143-64, for sixth century B.C. barbarian tombs at Histria; C. Preda, *ibid.*, 179-94, for wheel-made pottery. An important study but with usual south-east European misapplication of 'La Tène'.
- 20 M. Parducz, 'Graves from the Scythian Age at Ártánd, Com. Hadju-Bihar', *Acta Arch. Hung.*, XVII (1965), 137-231.
- 21 K. Kromer, *Das Gräberfeld von Hallstatt* (1959), 146, pl. 126; *Inv. Arch.* Y. 43 (2) no. 4.
- 22 J. Boardman, *op. cit.* note 1 (1964), 223, 243, for Greek trade; B. Filow, *Die archaische Nekropole von Trebenischte* (1927), and M. Grbić, *Choix de plastiques grecques et romaines au musée national de Beograd* (1958), for finds.
- 23 F. Starè, *op. cit.* (1955), *passim*; S. Gabrovec, *op. cit.* (1966), *passim*.

- 24 G. Riek and H.-J. Hundt, 'Der Hohmichele', *Röm.-Germ. Forsch.*, 25 (1962), 156-9, pl. 10. As in so much else connected with this study, I am indebted to Professor Stuart Piggott for information that pointing arrows upwards in the quiver was a Scythian funerary practice. He tells me that there are alternative views as to the number and size of bows in this grave.
- 25 M. Ebert, *Reallexikon der Vorgeschichte*, XIII, pl. 33c; *Inv. Arch.* Y.43 (4) no. 27.
- 26 W. Culican, *The Medes and Persians* (1965), with detailed bibl.; N. K. Sandars, *op. cit.* (1968), 229-30.
- 27 T. Sulimirski, 'Die Skythen in Mittel- und Westeuropa', *Ber. V internat. Kongr. Vor- und Frühgesch.*, Hamburg 1958, (1961), 793-9; S. Piggott, *op. cit.* (1965), 176, 189, fig. 106.
- 28 N. K. Sandars, *op. cit.* (1968), 234 *passim*, pl. 236 for the Early La Tène gold bracelet from Rodenbach in which each animal is shown with 'hind legs' in front as well as in rear.
- 29 B. Filow, *Die Grabhügelnekropole bei Duvanlij in Südbulgarien* (1934), 46-50, figs 56-9, pl. III; W. Culican, *op. cit.*, 1965, fig. 47.
- 30 D. E. Strong, *Greek and Roman Gold and Silver Plate* (1966), 85, pl. 18.
- 31 D. Berciu, *Romania* (1967), 143-4, pls 56, 60-1; and illustrated by E. Condurachi in *Le rayonnement . . .*, *op. cit.* n. 3 above, pl. 65, nos. 1-2 beaker, 3 greave, 4 helmet.
- 32 Detroit helmet: B. Goldman, *Bull. Detroit Inst. Arts*, xlii (1963), 63-72; S. Piggott, *op. cit.* (1965), pl. XLb; New York beaker: P. Jacobsthal, *ECA*, pls 226 & 227a.
- 33 N. Fettich, *Acta Arch.* I (1930), 256. Principal illustrations of this helmet: I. Andrieşescu, *Revista de Preistorie și Antichități Naționale*, I (1937), pls VII-X (best for detail); P. Jacobsthal, *ECA*, pl. 225e; S. Piggott, *op. cit.* (1965), 226 & pl. XLa; N. K. Sandars, *op. cit.* (1968), 231, & pl. 235.
- 34 W. Culican, *op. cit.* (1965), figs 10, 11, for comparative outlines of waisted beakers. For Marlik: E. O. Negabhan, *A Preliminary Report on Marlik Excavation*, 1964 (Special Publication, Min. Educ., Tehran).
- 35 Seton Lloyd, *The Art of the Ancient Near East* (1961), fig. 183 with underline comment.
- 36 E. H. Minns, 'The Art of the Northern Nomads', *Proc. Brit. Acad.*, xxviii (1942), 22.
- 37 B. B. Piotrovskii, *op. cit.* note 13 (1967), fig. 5, pl. 22b.
- 38 Karl Jettmar, *Art of the Steppes* (1967), fig. 12. Otherwise frequently if darkly illustrated, but see J. A. H. Potratz, *Die Skythen in Südrussland* (1963), pl. 79 for boars with hanging feet.
- 39 B. B. Piotrovskii, *op. cit.* (1967), 99; K. Jettmar, *op. cit.* (1967), 37, 222; W. Culican, *op. cit.* (1966), 137-9.
- 40 N. Fettich, *op. cit.* (1930), 239.
- 41 D. E. Strong, *op. cit.* note 30 (1966), 60-1, fig. 14b.
- 42 J. Boardman, *op. cit.* (1964), 115-6; D. E. Strong, *op. cit.* (1966), 54-5.
- 43 S. Piggott, *op. cit.* (1965), 171, 209 n. 12; N. K. Sandars, *op. cit.* (1968), 122-5.
- 44 S. Piggott, *ibid.*, 226; N. K. Sandars, *ibid.*, 231. The rosettes and imbricated feather circlets reflect Achaemenid and Assyrian styles.
- 45 P. Jacobsthal, *ECA*, 33-36 & *passim*; *idem* 'Imagery in Early Celtic Art', *Proc. Brit. Acad.*, xxvii (1941), 11.

- 46 J. Boardman, *op. cit.* (1964), 87, pl. 3*b*. This Phoenician bronze bowl (Ashmolean Museum, Oxford) was found at Olympia.
- 47 W. Culican, *op. cit.* (1965), pl. 14.
- 48 N. K. Sandars, *op. cit.* (1968), 231.
- 49 S. De Laet, and P. Lambrechts, 'Traces du culte de Mithras sur le chaudron de Gundestrup?', *Actes III congr. internat. pré- et protohist. Zurich, 1950*, (1954), 304-6.
- 50 I. Venedikov, 'Sépulture thrace sous tumulus récemment découverte à Vraca', *Archeologia* (Sofia), viii, (1966), 7-15, figs. 3, 4, greave.
- 51 A. Manzwitsch, 'Das Silbergefäß aus dem Kurgan von Mastjugino, Gr. Woronesch', *Acta Arch. Hung.*, ix (1959), 315-33; C. Preda, *Dacia*, N.S.v, (1961), 298-9, fig. 17, for pottery vessel with high relief face from Callatis.
- 52 K. Jettmar, *op. cit.* note 38 (1967), 47.
- 53 T. Sulimirski, *op. cit.* note 27 (1961), pl. 91; K. Jettmar, *op. cit.* (1967), fig. 10; N. K. Sandars, *op. cit.* (1958), 237.
- 54 J. M. de Navarro, *PPS*, xxi (1955), 237; 50 *BRGK* (1959), 79-119.
- 55 Vl. Dumitrescu, *L'art préhistorique en Roumanie* (1937), pls. XXI, XXII; D. Berciu, *op. cit.* (1967), pl. 58.
- 56 I. Venedikov, *Les trésors d'art des terres bulgares* (1966). No pagination, nor plate numbers.
- 57 F. Drexel, *op. cit.* (1915), *passim*; M. Rostovtsev, *Iranians and Greeks in South Russia* (1922), 138-9; P. Jacobsthal, *ECA.*, 2; N. Fettich, *op. cit.* (1930), *passim*; O. Klindt-Jensen, *op. cit.* (1950), 146; S. Piggott, 'The Carnyx in Early Iron Age Britain', *Antiq. Journ.*, xxxix (1959), 19-32; N. K. Sandars, *op. cit.* (1968), 256.
- 58 J. Brøndsted, *Danmarks Oldtid*, iii (1960), for general treatment of Danish Iron Age.
- 59 O. Klindt-Jensen, *Bronzekedelen fra Brå* (1953).
- 60 J. V. S. Megaw, 'A Bronze Mount from Mâcon', *Antiq. Journ.*, xlii, (1962), 24-9, for discussion of Central Celtic origin of the Plastic Style.
- 61 R. Lantier, *Mon. Piot*, xxxvii (1940), 104-19, and P. Reinecke, *Präh. Zeitschr.*, xxxiv-v (1949-50), 361-72, argued a Gaulish case without consideration of westward driven Celtic migrations during this period. J. V. S. Megaw, *Helinium*, i (1961), 241, aptly comments: 'For the moment . . . the north Gaulish silver-smith is to a large degree the result of toreutic wishful thinking'.
- 62 O. Klindt-Jensen, *op. cit.* (1950), 87-100; J. V. S. Megaw, *Antiq. Journ.*, lxiii (1963), 36-7, for short comment on Central Celtic element in Belgic metalwork which accords with usage of gold coins, and material discussed by S. Piggott in the present volume.
- 63 C. S. Nicolăescu-Plopșor, 'Antiquités celtiques en Oltenie. Répertoire', *Dacia*, xi-xii (1945-7), 17-34; D. Berciu, *op. cit.* (1967), 150-5, map fig. 66, but La Tène terminology cannot be supported.
- 64 O. Klindt-Jensen, *op. cit.* (1953), 88-90 for Møllerup; P. Goessler, *Der Silberring von Trichtingen* (1929), remains an important study with much comparative material illustrated.
- 65 D. Popescu, 'Nouveaux trésors Géo-Daces en argent', *Dacia*, xi-xii (1945-7), 35-69. A fundamental study.
- 66 B. Filow, *op. cit.* note 29 (1934), *passim*, figs. 182, 183, pl. X; D. E. Strong, *op. cit.* note 30 (1966), 87, pl. 20*b*.

- 67 B. Svoboda and D. Čoncev, *Neue Denkmäler Antiker Toreutik* (1956), 73, fig. 22; G. Oprescu *et al.*, *Studii asupra tezaurului restituit de URSS* (1958), 36–40, fig. 3; D. E. Strong, *op. cit.*, (1966), 87. I am indebted to Professor Strong for further comment on these rhyta.
- 68 D. Popescu, *op. cit.* (1947), *Inv. Arch.* R.20 (Coadă Malului), R.22 (Herăstrău).
- 69 D. Berciu, *op. cit.* note 31 (1967), 160.
- 70 D. Popescu, 'Le trésor dace de Sîncrăeni', *Dacia*, N.S., ii, (1958), 157–206. This important study contains comment on most of the silver-work mentioned in this chapter.
- 71 F. Drexel, *op. cit.* (1915), figs. 6, 7, 14; N. Fettich, 'Archäologische Beiträge zur Geschichte des Sarmatisch-Dakischen Beziehungen', *Acta Arch. Hung.*, iii (1953), 127–78, especially 134–44; S. Piggott, *op. cit.* (1965), 226; D. F. Allen, 'The Sark Hoard . . .', *Numismatic Chron.*, 7th ser. viii (1968), 37–54.
- 72 *CAH*, viii (1930), 557–8, & pls, iii, 77*b*; N. Fettich, *op. cit.* (1953), 135, fig. 5.
- 73 B. B. Piotrovskii, *op. cit.* (1967), figs. 27, 59, pl. 13*b*.
- 74 V. Ondruch, *Keltské Mince Typu Biatec z Bratislavy* (1958); J. Filip, *op. cit.* note 5 (1956), fig. 70.
- 75 O. Klindt-Jensen, *op. cit.* (1950).
- 76 N. K. Sandars, *op. cit.* (1968), for important discussion of Gundestrup including aspects not mentioned here. My debt to Miss Sandars for much help and correspondence over this whole field of enquiry is gladly acknowledged.
- 77 E. Porada, *Ancient Iran* (1965), pl. 24, lower left, shows detail of Hasanlu eagle.
- 78 M. Ebert, *Reallexikon*, xiii, pl. 41*Ca*: Jančokrak; N. Fettich, *op. cit.* (1953), fig. 15, for fragmentary plaque from Cioara (Csõra), also illustrated by W. Holmquist, *op. cit.* (1962), fig. 30, but this piece of scrap metal is not dated by the allegedly associated fibulae. D. Popescu, *op. cit.* (1958), 192, has drawn attention to the bronze female bust with up-raised rod arms first published by C. Daicoviciu, *Cetatea dacică de la Piatra Roşie* (1954), fig. 38.
- 79 J. Filip, *op. cit.* (1956), pl. LXX; N. K. Sandars, *op. cit.* (1968), pl. 274.
- 80 E. Thevenot, *op. cit.* note 6 (1968), 146.
- 81 S. Piggott, *The Druids* (1968), for Celtic ritual and shamanism with full bibliography.
- 82 V. Ondruch, *op. cit.* (1958), pl. XXXIX, Suppl. pl. 22, 1, 2.
- 83 W. Kimmig, 'Zur Interpretation der Opferszene auf den Gundestrup-Kessel', *Fundberichte aus Schwaben*, N.S. xvii (1965), 135–43.
- 84 Whitley Stokes, *Revue Celtique*, xii (1891), 52–130; M.-L. Sjoestedt, transl. and ed. M. Dillon, *Gods and Heroes of the Celts* (1949), 10.
- 85 S. Bökönyi, 'Data on Iron Age Horses of Central and Eastern Europe', *Bull. Amer. Sch. Preh. Res. Peabody Museum*, 25 (1968).
- 86 J. Driehaus, 'Eine frühlatènezeitliche Reiterdarstellung aus Kärlich', *Bonn. Jabrb.* 165 (1965), 57–71; W. Dehn, 'Eine Böhmische Zierscheibe der frühlatènezeit in Berlin', *Sborník Národního Muzea v Praze* (In hon. J. Neustupný), xx (1966), 137–48; P. Jacobsthal, *ECA*, no 84, silver phaleræ from Brescia.
- 87 Of the leading Gallo-Roman iconographical types studied by P. Lambrechts, *Contributions à l'étude des divinités celtiques*, 1942, this corresponds to 'le dieu à la roue', but 'les dieux . . . tricéphal, cavalier, et au maillet' may be thought remarkable for their absence from the Gundestrup cauldron.



- 88 *Bull. Museum of Fine Arts, Boston*, lxxviii (1965), 17, pl. 10 for stylistic comparison of bulls; A. G. van Hamel, 'Aspects of Celtic Mythology', *Proc. Brit. Acad.*, xx (1934), 207-42, for triad heroes.
- 89 N. K. Sandars, *op. cit.* (1968), 256, 324 n. 86.
- 90 I. Venedikov, *op. cit.* (1966), *passim*.
- 91 N. K. Sandars, *op. cit.* (1968), 253.
- 92 O. Klindt-Jensen, *op. cit.* (1950), 109-12; N. K. Sandars, *op. cit.*, (1968), 252, pl. 281; Compare Rynkeby hair-style with that of silver gorgonion from south Russia: B. Filow, *op. cit.* (1934), fig. 223, and even more closely with yak on silver phalera from Noin Ula: K. Jettmar, *op. cit.* (1965), pl. 23; for Rynkeby inner plate subject compare that of silver belt-plate from Loveč: I. Welkow, *Bull. Inst. Arch. (Sofia)*, viii (1936), 18-23.
- 93 N. Fettich, 'A gundestrupiezüstedény alakáról', *Arch. Ért.* xlv (1931), 43-7, fig. 27e.
- 94 E. Nylén, 'Gundestrupkitteln och den thrakiska konsten', *Tor*, xii (1967-8), 133-173, has come to hand too late to incorporate in this discussion.

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Tribes and Archaeological  
Groupings of the  
La Tène period in Belgium:  
some observations

*M. E. Mariën*



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Research on the Belgae and their archaeological remains will always remain indebted to C. F. C. Hawkes, who forty years ago, in collaboration with G. C. Dunning, devoted to them the most penetrating article to be written on the subject.<sup>1</sup> In the new observations he has recently published on the *Belgae* and *Belgium*<sup>2</sup> he reviews certain aspects of the question, with his accustomed mastery.

These few pages on the archaeology of the provinces to which history has bequeathed the name of Belgium are offered to Professor Hawkes as a homage which is sincere, though so much the more modest in deriving from a classification first proposed<sup>3</sup> some years ago. By recognition<sup>4</sup> of regional subdivisions within Belgian La Tène we may hope to illuminate some of the problems we shall discuss.

In the picture of the different peoples recorded by Caesar in the territory of the present-day Belgium may be discerned more than a list and description of tribes who occupied the country shortly before the middle of the first century B.C., and likewise more than an indication of their political relationships. Beyond this account, it is possible to catch a glimpse of two different chronological layers, by applying the principle that those peoples reduced to the rank of *clientes* represent an older stratum than the dominant tribes, who represent one or several more recent waves of invaders.

Granted that we cannot demand of the *Commentarii de Bello Gallico* the rigorous precision of detail and the exhaustive character one has the right to expect of a modern ethnographical study, and taking account, equally, of all the upheavals and changes in distributions which must have accompanied the great Celtic migrations of the fourth and fifth centuries, we should then be able to perceive in Caesar's enumeration of tribes of *clientes* some reflection of the ethnographic map of initial La Tène.

Subject to all these reservations, we should be able to infer from Caesar's indications that the central part of present-day Belgium, extending from the Scheldt in the west to almost as far as the Dyle, and contained from north to south between the Rupel and the sources of the Oise, was occupied at the start of La Tène by the Pleumoxii, Geidumni, Grudii, Ceutrones and Levaci.<sup>5</sup> The zone to the east of these should have been occupied by the tribes *qui uno nomine Germani appellantur*, the Eburones, Caeroesi, Condrusi and Paemani;<sup>6</sup> the areas occupied by the first three can be approximately determined.

It may be asked how far these peoples were themselves autochthonous. An overall survey of archaeological material attributable to the tribes named reveals a persistence of ancestral characteristics only among the 'Groupe de la Campine', in the form of elements derivative from Urnfield culture. Everywhere else in our provinces a clear break in continuity is discernible after the Hallstatt groups, showing that invasion by these horsemen with long swords of bronze and iron in the Haine valley, Namur and the upper Dyle region, where their connections with the 'Thraco-Cimmerians' of Bavaria are indisputable,<sup>7</sup> was only a short-lived interlude. The break is best observed in the Haine valley, where sites occupied by the Hallstatt tombs of Bernissart, Harchies and Havré<sup>8</sup> are situated north of the river while La Tène newcomers, belonging to the 'Groupe de la Haine', are confined to the south.<sup>9</sup> That there was marked antagonism between Hallstatt princes and the Celts of initial La Tène, whose art had not forgotten its Eurasiatic antecedents,<sup>10</sup> is obvious not only in the break between the two cultures at Mont Lassois<sup>11</sup> and in the necropolis of Les Jogasses<sup>12</sup> but, no less so, by a total discordance between the distribution of Hallstattian princely tombs and those of the La Tène A *Fürstengräber*.<sup>13</sup>

It is possible to distinguish regional groups among the archaeological material of early La Tène in Belgium. In the west, in hills to the south of the River Scheldt's Haine tributary, a region incorporated after the conquest in the *civitas Nerviorum*, is found the very homogeneous 'Groupe de la Haine'.<sup>14</sup> This should, if Caesar's enumeration is reliable, be attributable to one of the client peoples of the Nervii, the Levaci, Pleumoxii, Grudii, Geidumni or Ceutrones. The existence of a former *Gruduracus* at Château-Grignart<sup>15</sup> on the Sambre, a little upstream from Lobbes, could possibly support a hypothetical attribution to the Grudii. There can be no question of ascribing the Haine material to the Nervii, for several reasons: discordance between its fairly limited distribution and the extent of the Nervian *civitas*; the fairly high initial date of the group, in La Tène I B; its close connections with the Marne culture; the presence of war-chariots. The Early La Tène I B phase of the Haine group is represented by finds from the long-since disturbed La Courte cemetery at Leval-Trahegnies, near Binche (Hainaut), from cemetery I at Mont Eribus, near Mons, and by two grave-groups from the Champ des Agaises at Ciply. In addition to carinated bowls, tall, strongly carinated vases, with narrow base and high flaring neck, are the most striking ceramic types (fig. 50:1, 1b, 2). Decoration consists of grooves to emphasize the vase sections, meanders ornamenting the neck, and a wide band of guilloche or herring-boning. The squat form of carinated vase, a Marnian type, which is found among other Belgian groups, is here, by contrast, absent.

Two linch-pins with grimacing masks,<sup>16</sup> close to Waldalgesheim in style, show that there was a chariot-grave among the La Courte tombs. It is not known whether the rite was cremation or inhumation.

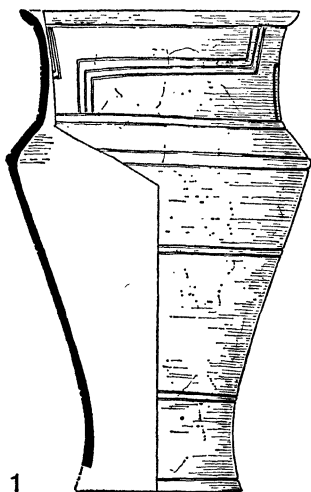
No further homogeneous archaeological group can be detected in the region between the Scheldt and the Dyle, later occupied by the *civitas Nerviorum*; though some fine imported Marnian ware was found on an occupation site at Kester (Brabant).<sup>17</sup> There is more west of the Scheldt, in territory eventually occupied by the Menapii, on the slopes of Mont Kemmel.<sup>18</sup> Evidence that pottery was traded between Champagne and the Scheldt zone is provided by the find of a fine carinated vase of the squat variety, with neck meander, at Gentbrugge (east Flanders: fig. 50:6).<sup>19</sup>

Distribution of vases of this type in north-eastern Belgium, Dutch Limburg and the adjacent Rhenish zone provides a valuable chronological indicator for this region, which was occupied by Germani. It seems established that we must henceforth dissociate these Germani, even in Caesar's Commentaries, from the Suebian Germani of Ariovistus.<sup>20</sup> That they were not the last of all the immigrants of Celtic blood to cross the Rhine, but on the contrary the first, in the La Tène period, to occupy the territory they were to continue to inhabit up to the time of the Roman conquest, emerges from various considerations. Like other initial La Tène peoples they were unable to resist the floods of subsequent invasion, and were reduced to the rank of *clientes*; the Condrusi fell under the power of the Treveri<sup>21</sup> and the Eburones, late in the story, to the Atuatuca.<sup>22</sup>

The archaeological evidence conclusively shows continuity throughout the La Tène period in the zone of the Eburones. It is in fact possible to group the fairly extensive and relatively homogeneous material under the classification 'Groupe de la Campine'. It is evident that urns with cylindrical and conical neck betray strong traditions deriving from Urnfield culture. Carinated vases of the squat variety with meander decoration on the neck, imported from Champagne (fig. 50:3), provide dating pegs for the cremation cemeteries of small barrows at Rijkevorsel, Baarle-Nassau, Bergeik and Lommel,<sup>23</sup> and they appear further to the east in the Dutch Limburg at Elslo.<sup>24</sup> Marnian influence may further be seen in the small undecorated carinated vases with flaring neck (fig. 50:5), which are characteristic in the Riel and Alphen (north Brabant) cemeteries on the western limits of the group. Marnian elements are again present east of the Meuse, at Elslo, Posterholt, and sporadically across the Roer, at Ophoven.<sup>25</sup>

Continuity of this archaeological material with the following phases (*cf.* fig. 51:16-18) in the Rijkevorsel and Lommel cemeteries allows us to propose an attribution of the Campine group to the Eburones, whom Caesar encountered between the Rhine and the Meuse.<sup>26</sup> The greater part of the tribe was settled in this region; though it must also have occupied a zone west of the Meuse, since it is known that the *castellum* of *Atuatuca* was situated roughly in the middle of its territory.<sup>27</sup>

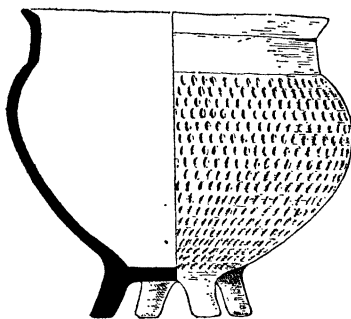
Since it is situated south of the known distribution of the Campine group, the princely tomb of Cannesberg at Eigenbilzen<sup>28</sup> cannot at present be attributed to



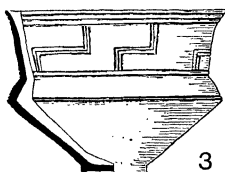
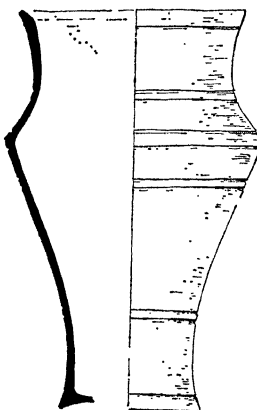
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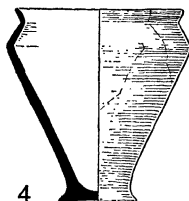
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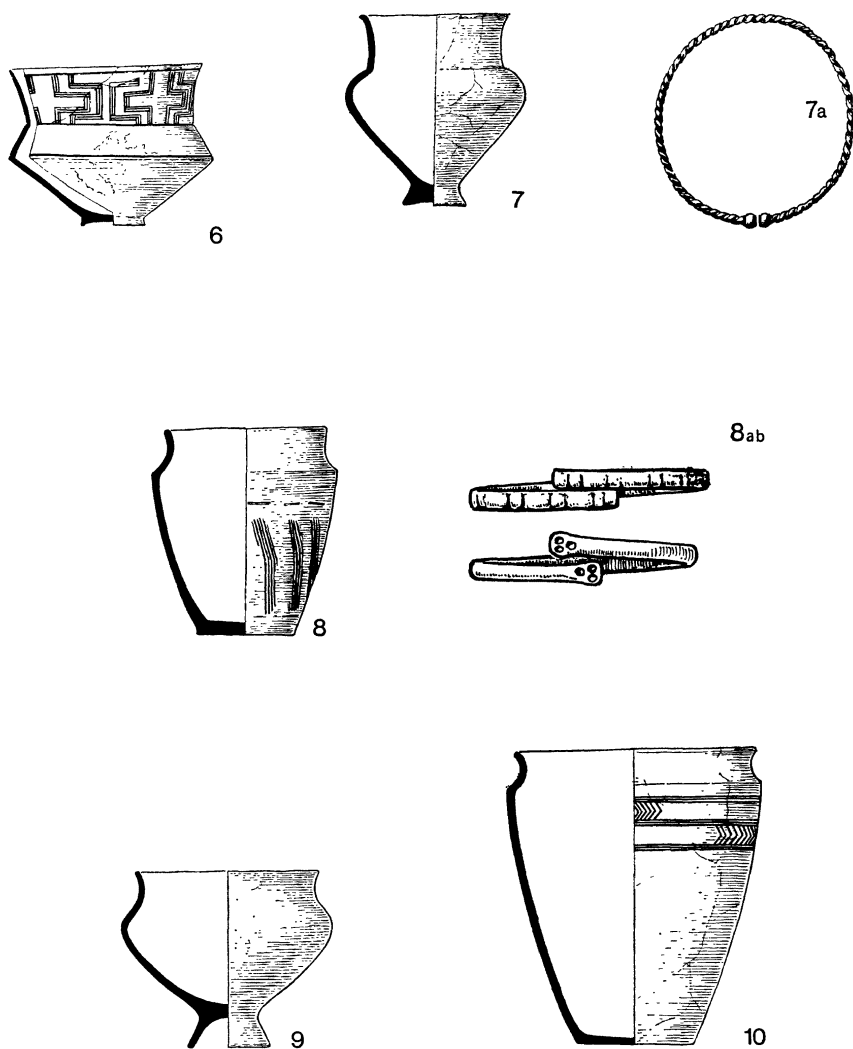


Figure 50. Early groups. 1-2, Haine group (1-1b Leval Trahegnies; 2 Ciply grave) 3-5, Campine group (Rijkevorsel) 6, Marnian import (Gentbrugge) 7 and 10, Crête Ardennaise group (7-7a Bercheux; 10 Sainte-Marie) 8-9, Tailles group (8, 8a-b Bovigny; 9 Cherain) Scale: 1:6 8a-b 1:2



them with certainty. The corrugated *cista*, Etruscan oenochoe and a drinking-horn<sup>29</sup> decorated in Early Style declare it a contemporary of the *Fürstengräber* of the Palatinate, Moselle and Saar regions (Ferschweiler, Zerf, Besseringen etc.). But the Eigenbilzen tomb is distinguished by its funerary rite of cremation; the incinerated bones were deposited in the *cista*.

Ascription of the Eigenbilzen tomb would in fact be less problematical if we were not still uncertain whether the 'Groupe de la Hesbaye' should be connected with the Campine group. To some degree a continuation of the latter towards the south-west, occupying the loess zone between the Gette and the Méhaigne, this further group is principally known by pottery from settlement sites at Omal and Moxhe (Liège), Orp-le-Grand and Jandrain-Jandrenouille (Brabant). Sherds painted with deep red meanders indicate its chronological relationship and connection with the Marnian region.<sup>30</sup> Any identification of the group as a tribe of the Germani is hazardous. Apart from the Eburones, two tribes mentioned by Casesar can be localized approximately. These are on the one hand the Condrusi, who subsequently fell under the hegemony of the Treveri.<sup>31</sup> The appellation of present-day Condruz would localize them in the zone between the Meuse-Ourthe and the Famenne. There is no archaeological assemblage which can be attributed to them. Further east, the positioning of the Caeroesi is indicated by the Carolingian *pagus Caroascus*, which extends in the Eifel, to the neighbourhood of Prüm. From the proximity of the 'Groupe des Tailles', attribution of this material to them is not impossible.

It then remains to localize two Germanic tribes, the Paemani, to whom from the present name of the Famenne (the former *Falmania*) was mistakenly attributed,<sup>32</sup> and the Segni who, with the Condrusi, in Caesar's time occupied a zone between the Eburones and the Treveri.<sup>33</sup> Being doubtless south of the Condrusi, this would consequently be in the neighbourhood of the Famenne depression. It is however risky to ascribe to this people the still rather disparate finds in this zone: the Malagne cremation-graves at Rochefort, including one with a La Tène I B fibula, the vertical-sided pit-graves at Saint-Gérard, with pottery of Marnian aspect, the Silenrieux cairns (*marchets*, of which some are certainly later) and the Fontenelle grave with a carinated and decorated vase.<sup>34</sup> The swan-neck fibulae and related types recovered from the bed of the River Lesse at the Trou de Han (Han-sur-Lesse, Namur) present the special problem of deciding whether these are votive deposits, or represent a La Tène I A phase of the refuge settlement recognized at the site<sup>35</sup> in subsequent periods.

There remain two further archaeological groups, found on high ground in the Ardennes, whose ownership is difficult to determine. The first, the 'Groupe de la Crête Ardennaise', occurs between Neufchâteau and Bastogne in a region later incorporated as a marginal zone of the *civitas Treverorum*. The group is remarkably

homogeneous and known exclusively from graves: inhumations in deep pits covered by fairly low barrows, 5–15 m in diameter and not more than 1.5 m high. Recent excavation<sup>36</sup> has increased our knowledge of these small groups of tombs, situated on heights of over 400 m east of the upper valleys of the Vierre and the western Ourthe, at Nivelet, Hamipré (sur Hasse), Namoussart, Massul, Juseret (La Hutte), Sainte-Marie-Chevigny (Wideumont-Lionfaing and Les Bouchons) and Hollange (La Malmaison); the Belle-Eau barrows at Sibret are the most northern examples. The most characteristic ornaments in the women's graves – which form the majority – are buffer-ended torcs, occasionally with torsion bodies (fig. 50:7a); in addition there are bracelets, some buffer-ended, boat-shaped bronze earrings and iron belt-hooks.<sup>37</sup> The pottery, which appears to be confined to the women's graves, can be divided into two main series: vases with swelling body, at times with fingernail decoration, and flaring neck (fig. 50:7, cf. Massul, Juseret), well-known in the Hunsrück-Eifel group; and others in the shape of a carinated situla (fig. 50:10, cf. Hamipré, Les Bouchons). A feature of these latter is geometric ornament painted in ochre or carmine high on the body. The taste for polychromy, like the torsion torcs, betokens Marnian influence.

The men's graves contain only one or two spears with ashen shafts and, exceptionally, an iron fibula (Les Bouchons, tomb V). On the other hand, at Massul and Namoussart graves have been found containing functionally-constructed chariots, similar to the utilizable vehicles in the Hunsrück-Eifel group (as at Bell). The Crête Ardennaise group, despite its warlike appearance, seems to have come to an end at the close of La Tène I. An analogous break is in fact revealed in the Hunsrück-Eifel group itself,<sup>38</sup> where it has been interpreted as the result of massive migration during the Celtic 'crusades', and not as a change of population. In the Ardennes, one might nonetheless imagine some territorial redeployment on the part of the Treveri.

Separated from the Crête Ardennaise group by the basin of the eastern Ourthe, the 'Groupe des Tailles' built its low barrows on the heights between the upper course of this river and the Salm, at Bovigny (Pralles), Cherain (Sterpigny) and Mont-le-Ban.<sup>39</sup> Although likewise practising barrow inhumation, it nonetheless differed considerably from the former group. No woman's grave with a torc is known, and the bracelets are of a different type (Bovigny, tomb 1, fig. 50:8a–b). Among the pottery, alongside carinated situlae, which are sometimes comb-decorated, is a vase with wide mouth and narrow foot (fig. 50:8 and 9). Since the territory of the Caeroesi, as far as one can infer from the location of the *pagus Caroasus*, was not far away to the east, one might consider an attribution of this group to them.

A general survey of these different archaeological groupings in Belgium (leaving the Coastal group provisionally aside) reveals how strong was the persistence of cremation. The rite is known already during the Neolithic in central and northern

Belgium. It was still practised during the Middle Bronze Age and, reinforced by Urnfield migrations, continued to predominate despite the invasions of Hallstatt warriors. The Cannesberg prince at Eigenbilzen, unlike others in the *Fürstengräber*, was cremated, as were all members of the Campine group. The possibility that the La Courte chariot-grave was an inhumation is only a hypothesis; the Mont Eribus burials, and tomb 1 at Ciply, were cremations. The scattered graves of the Famenne are also cremations, which is a novelty: until that time inhumation, in burial caves and cairns, had persisted in the area, despite immigration (Han-sur-Lesse, Sinsin) of peoples with excellent Swiss-Rhenish Urnfield ware.<sup>40</sup>

While the Famenne turned to cremation with La Tène, inhumation persisted in the two Ardennes groups. However, cremations seem nonetheless to have crept in among the Crête Ardennaise group, since the large pit of barrow II at Sainte-Marie (Les Bouchons) contained a little heap of burnt bone.<sup>41</sup>

It is then manifestly impossible to identify the arrival of the Belgae by reference to the appearance of a cremation rite in the provinces of Belgium. Furthermore, examination of the evidence in Champagne reveals that from the earliest La Tène there is some cremation present, even in graves furnished with excellent Marnian ware, for example at Ciry-Salsogne and Chassemy in the Aisne.<sup>42</sup>

From what we now know in Belgium it could be that any breaks in the evidence which might disclose the arrival of the Belgae are especially difficult to detect because the invaders, although reducing the earlier population to a state of vassalage, seem to have left them a certain military function; and for this purpose they must have respected something of their social and economic structure. This emerges not only from examination of material left by the Haine group, but also from certain facts recorded by Caesar: the Nervii could not have demanded aid from their *clientes*<sup>43</sup> if these had been reduced to total incompetence, militarily and socially. Thus, the Crête Ardennaise and Tailles groups apart, it is possible to follow a continuous evolution in most regional groups in Belgium up to the end of La Tène.

We can give here only a brief account of this evolution and of the associated problems.

Even in other regions it is difficult to distinguish a Middle La Tène, or La Tène II, in either content or chronology. In Belgium it can be discerned only rarely. In the Haine group one or two finds from the La Courte cemetery at Leval-Trahegnies can be assigned to this phase, among others the grave containing a bronze *châtelaine*.<sup>44</sup> At this point a difficult chronological question also arises concerning the Coastal group, which was subsequently to enjoy remarkable continuity up to the years of the Conquest, when its region was occupied by the Menapii.<sup>45</sup> The most important site, 'Romeins Kamp' at La Panne,<sup>46</sup> has produced a fibula of the long La Tène II type and strongly carinated pottery (fig. 51:19), including situlae decorated

with guilloche bands and bowls, along with other types we shall discuss later. One might be tempted to date the carinated ware, with its indubitable Marnian influence, to initial La Tène; but the absence of definitively La Tène I elements, like the small, squat carinated vases of Gentbrugge-Rijkevorsel type (*cf.* fig. 50:5), prompts us not to put the initial date of the group before the start of La Tène II.

The same question arises over the initial phase of the Nekkerspoel habitation site, at Mechlin. The presence of a small carinated vase with a small foot and high flaring neck (fig. 51:22), very little different from the type in the early cemeteries of the Campine group, encourages us not to put the site's starting date too low. There is unfortunately no stratigraphy.

It is well known how fluid is the transition between La Tène II and La Tène III and that there has been much debate on whether to fix the dividing date either around 100 B.C. or, more likely, around 50 B.C.<sup>47</sup> The question then arises, whether there was a La Tène III before the Roman conquest, or whether the start of La Tène III coincided with the Nauheim phase. One fact about the arrival of the Belgae in *Belgium* is indisputable, explicitly known from Caesar's Commentaries:<sup>48</sup> they must have arrived before the end of La Tène II and have had time to have settled themselves in sufficient strength to repel from there the Cimbri and Teutones and their allies.<sup>49</sup> Doubtless about the same time, as far as we know at least from the middle of the second century B.C., there arrived the group of dominant tribes who, to distinguish them from the Belgae of Caesar's *Belgium*, may be termed the 'northern Belgae'. It should be emphasized that these peoples showed no designs on the lands of the Germani. Doubtless they would recognize these as an authentic section of those Germani from whom they were proud to claim descent. Quite distinct from the Suebi of Ariovistus, such Germani might, in oral tradition, have represented some illustrious power of Urnfield times.

An arrival of contingents of Belgae at the start of La Tène II, encouraged by the considerable exodus occasioned by the great Celtic migrations, would accord well with the date which has been proposed for the beginning of the Coastal group. This group occupied a vast area, where later the Menapii are found, between the Aa, Scheldt, Striene and Meuse<sup>50</sup> (coastal Zeeland had not yet been fragmented by the sea), and extending in the coastal zone to beyond the Rhine, as represented by the present-day Old Rhine branch of the river. For their part, the Nervii subjected by the force of their infantry the region between the Scheldt, the Rupel lowlands and the line of the Dyle, with the Forêt Charbonnière to protect their western approaches over a wide area. The south-east and south of the territory was defended by the Fagne forest in the Entre-Sambre-et-Meuse, and between the source of the Oise and the Scheldt by the forests of Thiérache and Arrouaise.<sup>51</sup> By the use of hurdles the forest areas were made impenetrable to enemy cavalry. The area conquered by the

Nervii comprised the territories of earlier tribes: the Geidumni, Ceutrones, Levaci, Pleumoxii and Grudii; and one of these was probably the 'Groupe de la Haine'. These tribes must have kept a part of their lands until the Conquest. While we are ignorant of the extent of these, we do not know what settlement area the Nervii reserved for themselves.

East of the Meuse, the limits of the *civitas Treverorum* seem to indicate that the Treveri, who are not to be included among the Belgae, annexed land between the upper course of the Sûre, over the ridge separating the Lesse and the Semois, to Bohan on the latter river, thus taking in the former territory of the Crête Ardennaise group. Moreover, they imposed their hegemony to the north as far as the Meuse, since the Condrusi became their clients.<sup>52</sup>

North of the Meuse from the Forêt Charbonnière to the Rhine the land would possibly have been left to the enjoyment of the Eburones, a tribe of the early group of Germani, had not the Cimbri and Teutones, after their repulse by the Belgae, fallen back on the area and left a rearguard, the Atuatuaci. We have the explicit statement that the defeated Eburones had, up to the time of Caesar, to send hostages and that the Atuatuaci erected a stronghold for surveillance, *Atuatuca*,<sup>53</sup> which may be identified as Tongres. It is also known that the neighbouring peoples harassed the Atuatuaci, until an agreement was made according them an area for habitation.<sup>54</sup>

It is then very tempting to connect the battles which possibly took place, especially round the central Meuse, with the series of fortified sites, situated for the most part on rocky spurs in limestone country. The first line of these *éperons barrés* centres on the trough of the Sambre-Meuse valleys, with the hill-forts of Hastedon at Saint-Servais, Champeau at Namur, Marche-les-Dames, Mont Falhize at Huy. In a parallel line are the fortified sites of Baileux, Lompret, Dourbes, Olloy, Waulsort, Jemelle, Han-sur-Lesse (Sur Boine) and Tenneville.<sup>55</sup> But even if it has been possible in certain enclosures or defensive banks to find traces of *muris gallicis* or related structures, as at Hastedon, Jemelle, Dourbes (Roche-à-l'Homme), Baileux and Waulsort, the chronology of every site remains problematic, and the pottery found will not yet support any attribution to a definite tribe or defined archaeological group. There are similar dating problems in analogous defensive sites well within the territory of the Treveri,<sup>56</sup> in wooded country south of Etalle, at Le Châtelet, La Tranchée des Portes and Montauban,<sup>57</sup> where there are considerable remains of wooden structures.

Further indications of ruthlessness, which probably relate to struggles during the final decades before Caesar's arrival, lie in the refuge sites. The most spectacular is the Trou de l'Ambre at Eprave.<sup>58</sup> An entrance cave contained remains of a hearth with fragments of glass bracelets, wooden dishes, iron ware and sherds, which clearly belong among the latest series of the Haine group. At the end of a steeply rising corri-

dor, together with some large amber beads, were the remains of seventy-five individuals, infant and adult, mutilated, with throats cut, or decapitated. The number of skulls recovered was small compared with the number of victims. Doubtless the majority were carried off as trophies.

Analogous finds – seven human lower jaws with traces of decapitation – were found in one layer of a refuge site on the bank of the Petites Fontaines at the Trou de Han (Han-sur-Lesse)<sup>59</sup> but these belong to the Nauheim phase.

With the arrival of the Atuatuca, the ethnical survey of our regions given by Caesar is complete. The question at once arises as to which archaeological material corresponds to each tribe. There can be no valid answers without preliminary discussion of the chronology of final La Tène: did Caesar find in Belgium a belated La Tène II or a pre-Nauheim La Tène III? It seems prudent at the present stage of discussion to reserve a period, La Tène IIIa, lasting a quarter of a century, between the start of La Tène III and the Roman conquest. As shown by excavations at Engelhalbinsel near Bern,<sup>60</sup> it would contain fibulae immediately antecedent to the Nauheim type. There seem to be no difficulties in making the years after the conquest, together with the Octavian period, correspond to Nauheim fibulae,<sup>61</sup> that is to a La Tène IIIb from 50–15 B.C.; and this would be followed in the Augustan period by a La Tène IIIc from about 15 B.C. to A.D. 15, characterized by knee-bow and ‘shell’ fibulae (*fibules coudées* and *à coquille*)<sup>62</sup> and the first Belgic pottery, or, in the best cases by the first imports of Arretine ware.

With the requirements of this chronology in mind, it is extremely difficult to divide Belgian material between the different phases of final La Tène. With the number of undiagnostic small finds, the proliferation of pottery types, and the probability of survival of Marnian traits, it is hard not only to discern chronological subdivisions, but even to distinguish regional groups. Such groups have to be based on a very limited number of definitive features.

The first archaeological grouping is found in the coastal zone, as a sequel to, or contemporary complement of, the Coastal group already noted for its carinated ware of Marnian tradition.<sup>63</sup> It is distinguishable, at La Panne (East Flanders), from all other groups by its very large, squat pots of smooth outline, reaching 35 cm in diameter, with the body entirely ornamented with either finger- or pinched up impressions (fig. 51:21). Size and form distinguish these pots from the far smaller, and sometimes slenderer and more carinated, ones with pinched-up or fingernail body decoration among the Haine and Hesbaye groups. Sherds with decoration like La Panne are found on Flemish coastal sites belonging to the same group, at Bray-Dunes, Wulpen (Steendam) and Mariakerke.<sup>64</sup> Finds from the Zeeland islands which, east of the Striene (the old course of the Scheldt),<sup>65</sup> used to be joined to the coastal plain, are naturally analogous, at Oost and Westcapelle, Domburg and

Tholen. Closer examination of pottery forms would show whether the same is true for decorated sherds from south Holland (Vlaardinge and Hillegom) and around The Hague and Leyden, and from beyond the Old Rhine at Monster.<sup>66</sup> It is in fact not impossible that this is precisely the region which the Menapii had to leave in Caesar's time, in dramatic circumstances, impelled by the Usipetes and Tencteri.<sup>67</sup> Even though it can be observed that pottery with simple intersecting lines (fig. 51:20) becomes more frequent with the appearance of Gallo-Roman ware, and that the same is true of comb-decorated pottery, it is still not possible to establish a chronological sequence at the La Panne settlement site.<sup>68</sup>

Caesar indicates that the territory of the Menapii was contiguous with that of the Eburones, to whom the material of the Campine group<sup>69</sup> may be ascribed. This group, already definable during La Tène I, seems to continue without interruption until La Tène III, when it is characterized by ware with smoother profile, and at times with rusticated body (fig. 51:18), a decoration still unknown in the Coastal and Haine groups. Bowls are carinated, sometimes decorated with a series of curved lines, drawn with a comb (fig. 51:16–17). Caesar's very thorough extermination of the Eburones<sup>70</sup> makes a La Tène IIIb phase unlikely.

In the well-defined Haine group<sup>71</sup> an 'early series' of La Tène I B and La Tène II is followed by a 'later series' of La Tène III, characterized especially by its decorated bowls with slightly conical neck and strongly rounded shoulder (fig. 51:11–12). These highly distinctive necked bowls are found in the region of Mons (Spiennes), but especially round Binche (Leval-Trahegnies, Péronnes-lez-Binche). They are also typical in the Trou de l'Ambre refuge site.<sup>72</sup> The same bowls appear a little further to the south-west in the Rocroi region, in barrow cremations in the Bois des Pothées.<sup>73</sup> The question is whether the Eprave refugees came from the Haine region, or whether, on the contrary, during late La Tène the Haine group should be assigned an area incorporating the Famenne and adjoining Rocroi plateau. At Eprave and Péronnes-lez-Binche the bowls are accompanied by conical-neck vases with the shoulder or belly highly ornamented with curvilinear motifs, sun wheels or concentric circles, parallel grooves, polished lines and zigzags, peaked motifs and St Andrew crosses in strong relief, covering almost the whole field (fig. 51:13–15). The presence of a chariot-grave of very late date in the La Courte cemetery at Leval-Trahegnies<sup>74</sup> demonstrates that Nervian domination did not destroy the social structure of their client tribes who, as already said, must have preserved some military power to be called on during the Gallic Wars.

As for the Nervii themselves who, from Caesar's numbers of combatants, may be estimated at two hundred thousand souls, it must be admitted that without the text of the Commentaries<sup>75</sup> their existence would be difficult to establish. There is only an interruption in cemetery I at Mont Eribus, when bowls cease to appear in

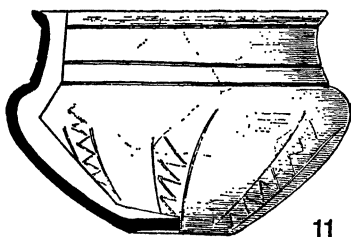
their 'classical' form, as a possible indication of expropriation by the Nervii, followed by the very poor material of Mont Eribus II.<sup>76</sup> Only one explanation can be suggested for this dearth of finds. The austere habits of the tribe, their cultural impoverishment, burial customs and scarcity of equipment have combined to screen from the archaeologist the remains of these rude warriors who, despite severe losses, were called on under Roman rule to form a *civitas*.

Alongside the three archaeological groups we have discussed there are others less clearly definable: a 'Groupe de Hesbaye', and a 'Groupe Dyle-Scheldt' of rather mixed appearance, possibly the result of a mixing of periods. Following La Tène I finds, the Hesbaye group is known in a series of habitation sites, stretching between the Jauche and Meuse: Jandrain-Jandrenouille, Jauche, Orp-le-Grand, Omal possibly, Moxhe, Glons, Rosmeer.<sup>77</sup> Alongside plain vases and bowls in the carinated tradition, which are difficult to date, is found a smoother-profile ware, rusticated or comb-decorated. Haine group bowls are entirely absent.

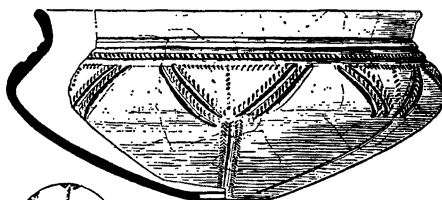
The term 'Dyle-Scheldt group' is a provisional grouping of finds from the area extending from the lower Dyle and Rupel as far as the valleys of the Scheldt and Lys. As a group it seems especially dependent on the network of water-courses. The chief site of its later phase (determinable solely by typology) is the Nekkerspoel settlement,<sup>78</sup> where rectangular huts were raised on an artificial foundation alongside a pool of water formed by the Dyle. From the discovery of several skeletons, including children, we may infer the site ended in violence. Pottery is characterized by rounded bowls with out-turned or constricted rim (fig. 51:23-4), at times with a lug handle. More detailed study would no doubt reveal traits in common with the settlement site at Emelgem on the Lys (East Flanders), and possibly with another, not far away, at Dentergem. Two sites fairly near Nekkerspoel, however, the 'cellar' of a round hut at Rumst (Antwerp) and a settlement layer at Heffen (Antwerp)<sup>79</sup> contain rather different pottery, including among preponderantly undecorated ware some with smooth-profiled forms with rim impressions and rusticated girth, features known in the Hesbaye and Campine groups. Further research should show whether the notion of a 'Dyle-Scheldt group' should be retained, and whether there is an association with finds from the sandy country of the Pays de Waes (Sint-Niklaas, Elversele, Sombeke, Bouchoute), from around Ghent (Abbey of Saint-Bavon, Port-Arthur) and from the high land on either side of the Lys (Huise and Kruishoutem to the south, Aalter and Varsenare to the north).<sup>80</sup>

North of the Rupel-Nethe system a series of dwelling sites is known east of Antwerp on either side of the Schijn, at Wijnegem and Oelegem.<sup>81</sup> While from some settlements there is smooth-profiled pottery with rusticated body and rim impressions, certain round-based bowls with the body covered by grooved hatching are a so far exceptional novelty; other small carinated pots with pinched-up orna-

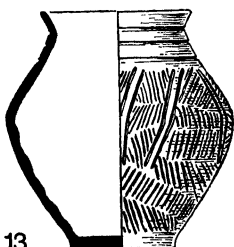




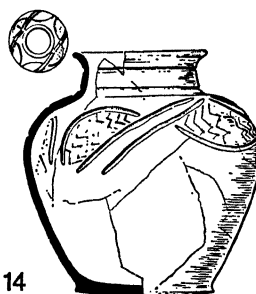
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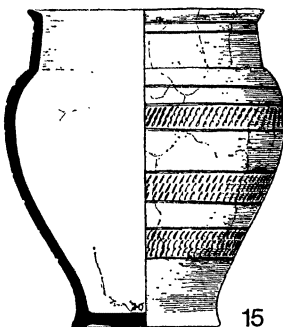
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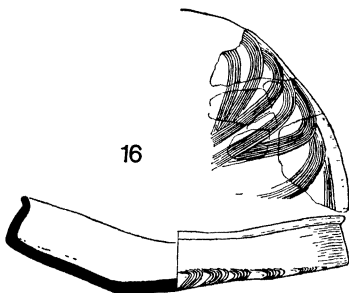
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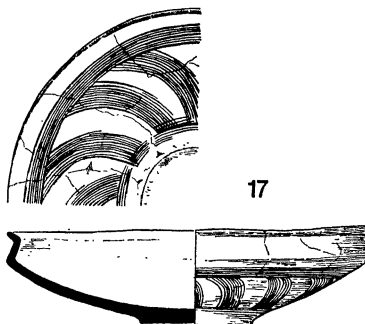
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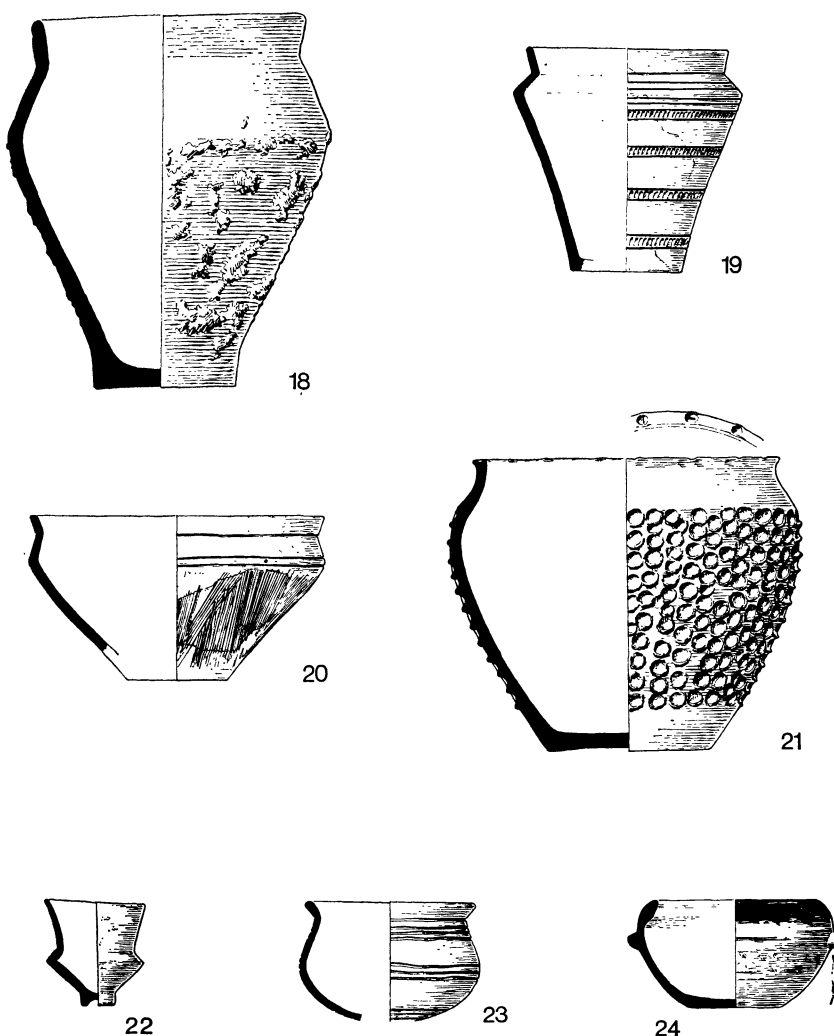


Figure 51. Late groups. 11–15, Haine group (11 and 15 Leval Trahegnies; 12 and 14 Werimont; 13 Peronnes) 16–18, Campine group (16 and 18 Rijkevorsel; 17 Lommel) 19–21, Coastal group (La Panne) 22–24, Dyle-Scheldt group (Nekkerspoel). Scale: 1:6

ment recall those from hut A at Camp-à-Cayaux, Spiennes (Hainaut). Special note should be taken in the 'Dyle-Scheldt group' of fortifications like the Kesselberg (Kessel-Lo, Brabant), east of Louvain, and of refuge sites, like the 'palafitte' of Dentergem (East Flanders),<sup>82</sup> where successive occupations from the Neolithic to the Middle Ages show striking parallelism with the refuge caves of upper Belgium.

Finally, among the pottery we must notice a quite distinctive ware with a distribution not tied to any regional group. These are 'parasol' bowls, with fairly thick walls terminating in six or seven semi-circular scallops, with out-turned or T-sectioned rim; some are footed (fig. 52:28-30). These bowls could plausibly originate in the *Lappenschalen* of the lower Rhine late Hallstatt group. They occur as often in the Campine (Vosselaar), the Waasland (Zombeke) and Rupel and Scheldt region (Heffen, Drongen) as in the regions of the Haine (Spiennes), the Sambre (Montignies-sur-Sambre) and the Famenne (Sinsin, Eprave, Han-sur-Lesse).<sup>83</sup> Though rare outside present-day Belgium, they have been found in the Dépt. Oise (Thiverny).<sup>84</sup>

We may reasonably suppose that refuge sites, either islands in the marshes or caves, were sought out during the Gallic Wars. Caesar himself mentions several instances. Roman successes could also have encouraged the burial of treasure. That from Frasnes-lez-Buissenal (Hainaut)<sup>85</sup> may be assigned to this period on the evidence of its uniface staters, attributable to the period 60-40 B.C., though admittedly some bifacial staters and two gold sheet torcs could be a generation or two older. The large torc represents a final development of the 'Plastic Style' and is comparable with examples from Champagne and from Norfolk (Snettisham).<sup>86</sup>

New and controlled excavation, and more penetrating typological study, should reveal what material belongs before and what after Caesar's conquest. Research on the years of the Gallic Wars has so far been directed primarily to identification, often purely from the literature, of sites mentioned in the Commentaries (*Sabis*, the *oppidum Atuatuconum*, *Atuatuca*<sup>87</sup>), and these questions cannot be discussed here. But the importance must be emphasized of recognizing what changes were brought about in the different groups by the conquest. For this purpose we must have chronological criteria to separate material of final La Tène II—which may have been followed by a La Tène IIIa, possibly very short—from a La Tène IIIb, which we have already defined by the presence of the Nauheim fibula,<sup>88</sup> *speculum* coinage and, at the end of the phase, by Italic imports of the Kelheim horizon.<sup>89</sup> Certain types come to be associated with these diagnostic features: among the pottery, a wide-based, ovoid vessel with inbent rim and comb-decorated body, the 'Haltern cooking-pot'.<sup>90</sup> This is absent among pottery from the Trou de l'Ambre at Eprave, but represented by fairly thin-walled sherds in the La Tène III stratum of the nearby refuge settlement of Trou de Han. This layer follows two others of final La Tène date, and overlies that

containing the jaw-bones of the seven beheaded victims. Fragments of Haltern cooking pots have been recovered from the bed of the Lesse, which flows at the foot of the site, together with a series of Nauheim fibulae and those of Hoppstätt type, with ringed bow.<sup>91</sup> The finds are therefore to be attributed to the troubled times following the conquest.

In the region of the early Haine group, the presence of ovoid pots with inbent rim of Haltern type 91 dates hut site E at Camp-à-Cayaux (Spiennes)<sup>92</sup> to the La Tène IIIb phase. This accords well with the evolved character of the accompanying necked bowls, which represent a stage subsequent to the 'classic' types at Eprave and Péronnes, as well as with the presence of sherds decorated with combing and 'fir-tree' motif.

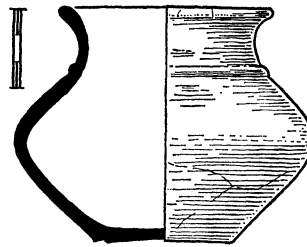
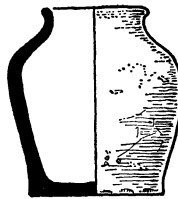
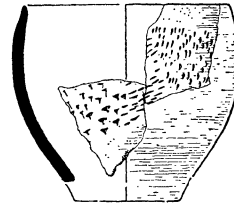
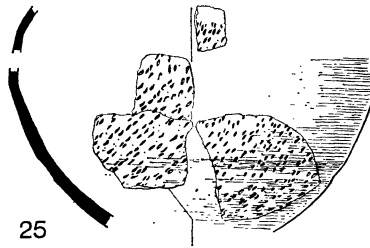
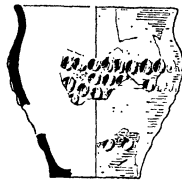
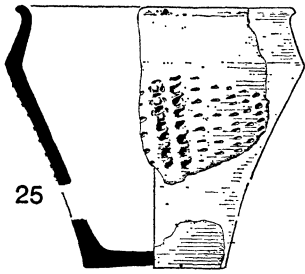
On the old territory of the Eburones, Haltern cooking-pots occur among finds from a rectangular dwelling at Marilles (Brabant),<sup>93</sup> again with necked bowls more evolved than the classic form.

One may judge that during the Nauheim phase the former regional groups lost something of their character and that unifying forces began to take effect.

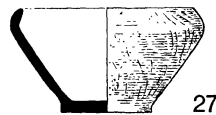
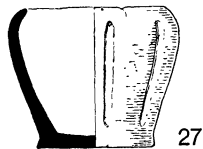
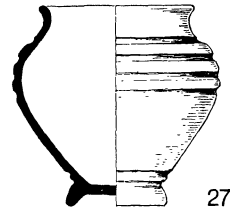
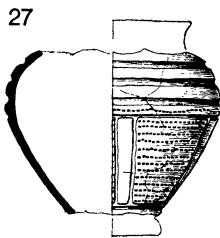
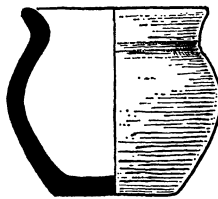
Gaulish coins of *speculum* and bronze are fairly numerous, but are rarely found in association or stratified. The date of their disappearance is difficult to fix within a generation, between 15 B.C.–A.D. 15. Though distribution of coins with a branch motif (*au rameau*) seems to cover principally the area of the Haine group and the Entre-Sambre-et-Meuse, their attribution to the Nervii<sup>94</sup> is less demonstrable in that they do not cover the whole extent of the *civitas* evenly. They nonetheless provide a valuable chronological index for the early development of settlements which later become roadside *vici*, as at Waudrez-lez-Binche (*Vodgoriacum*), Liberchies (*Geminia-cum*) or Asse. Likewise, the distribution at Tongres of coins with the inscription AVAUCIA, attributed to the German Tungri, who must have occupied the region largely vacated by the former inhabitants, the Eburones, clearly shows the area inhabited from around 15 B.C. by the native tribe, on the south-western outskirts of the town grid.<sup>95</sup>

The coins must chiefly have belonged to the Tungri who, with the Texuandri,<sup>96</sup> were able to settle after Caesar's reprisals had largely depopulated the territory of the Eburones. It is however difficult to find any evidence of the immigrants among pottery finds. There is a small group (fig. 52:27), probably from a cremation grave, from the gates of Tongres on the Mopertingen road,<sup>97</sup> comprising two bowls and two urns with short everted neck and marked foot, decorated with wide furrows on the shoulder with (on one) four trapezoidal fields of punctuated lines on the girth. The relationship of this last with 'west Germanic' pottery<sup>98</sup> is evident.

Elements from the same trans-Rhenish group occur on the rectangular hut-floor A at Camp-à-Cayaux, Spiennes (fig. 52:25),<sup>99</sup> where carinated bowls are a clear



26b



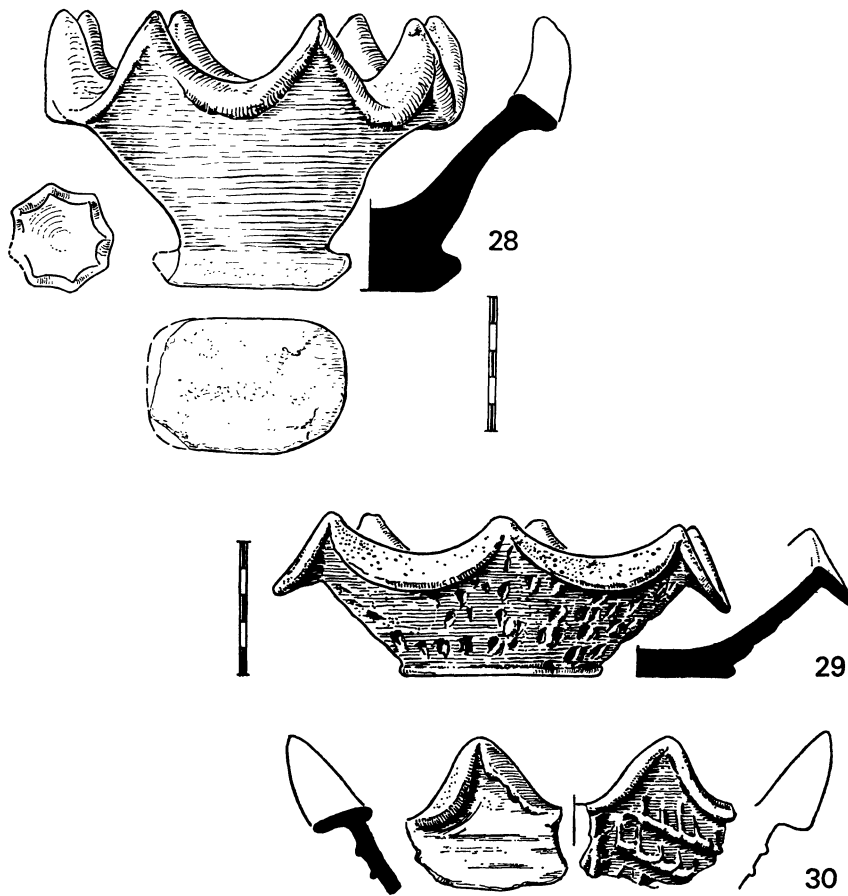


Figure 52. Special groups of La Tène III b. 25, 'Haldern' group (9 Camp à Cayaux, Hut A, Spiennes) 26, 'Nervian' group (26a Angre; 26b Mont Eribus) 27, 'West Germanic' group (Tongres) 28-30, 'Parasol' group (28 Caverne du Moulin; 29 Vosselaar; 30 Montignes). Scale: 1:6, 26a-26b 1:3

link with late Haine group ware. The simultaneous appearance of an overall decoration of round or triangular impressions, scattered finger-tip ornament and 'fir-tree' motif, and the coexistence of rounded or ovoid forms with others of Marnian tradition decorated with rows of pinched, finger-tip, or fingernail marks, relate closely and unmistakably to Germanic finds, for example at Haldern (Kr. Rees).<sup>100</sup> The numerous examples at Spiennes of rusticated, combed and striated ware, with imitations of ring-bases, belong without doubt to a late assemblage, and not, as has been claimed,<sup>101</sup>

to a La Tène I site with later additions. There is nonetheless a problem, since analogous finds east of the Rhine date from the middle of the first to the end of the second century A.D., while it is impossible to place the Spiennes group later than nearby graves at Mont-de-Presles, Harmignies,<sup>102</sup> which are at latest early first century A.D., containing Arretine imports, including a bowl from the workshop of Umbricius, and Belgic butt beakers.

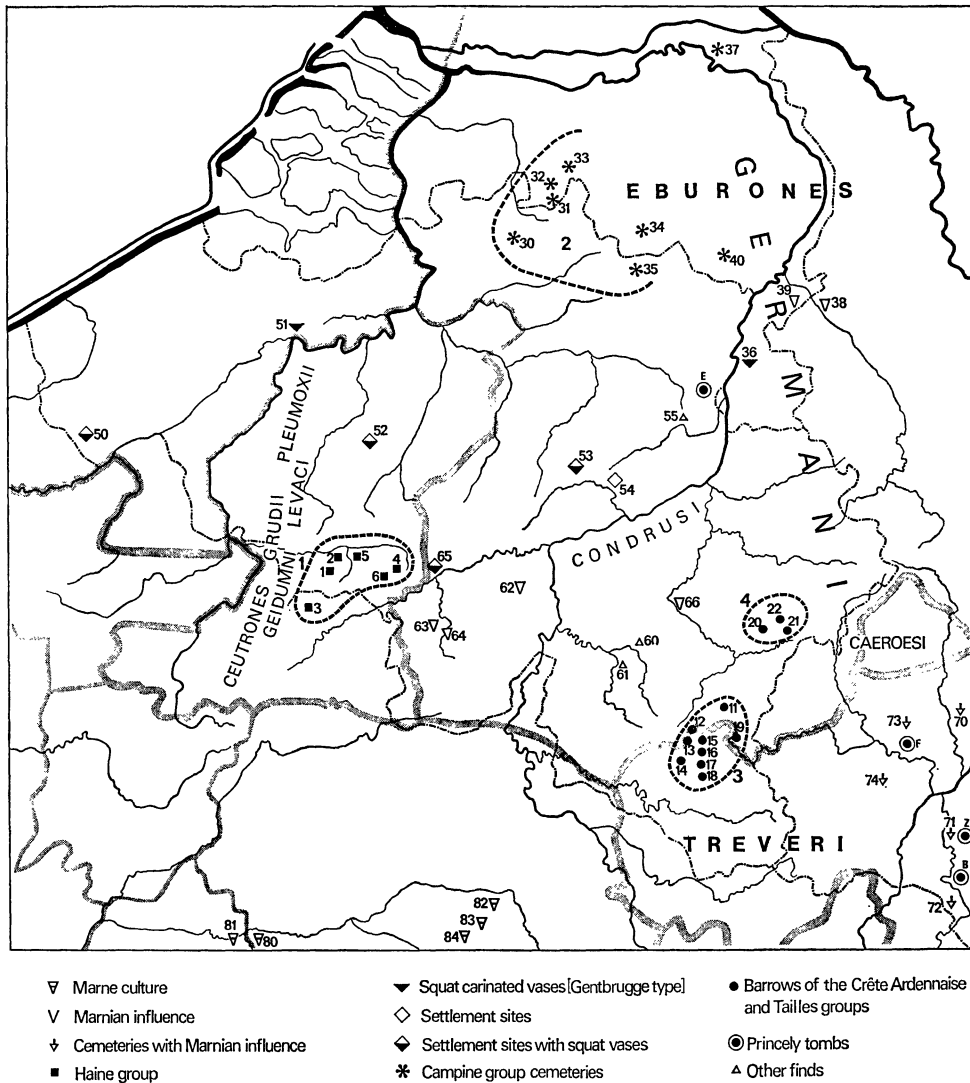


Figure 53. Map of initial La Tène. Tribal divisions are indicated by dotted lines

# TRIBES AND ARCHAEOLOGICAL GROUPINGS

Still in the area of the Haine group, it appears we may well be able to distinguish another type of pottery, round Mons at Mont Eribus, which probably dates from immediately after the conquest. A *speculum* coin would seem to imply this, given that it is justifiable to deduce a general date for the Mont Eribus II cemetery from this evidence.<sup>103</sup> The pottery (fig. 52:26b) appears very poor, with small, narrow-necked flasks, cups and a small, wheel-turned vase with cordoned neck. One might

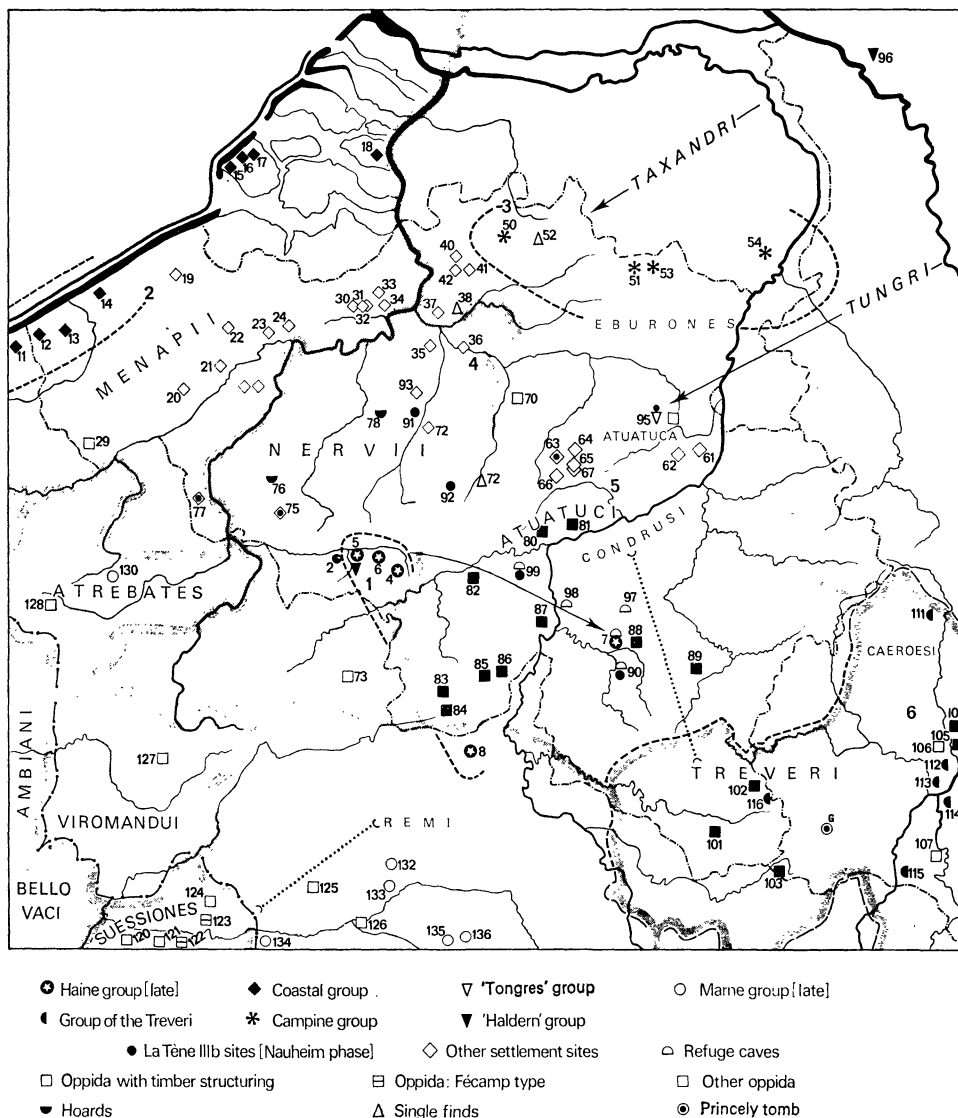


Figure 54. Map of final La Tène. Tribal divisions are indicated by dotted lines



possibly interpret this as evidence of the presence of the Nervii. The restricted range, small size and fragility of the pottery, due to poor firing, would explain why Nervian material is so rarely found. In addition to the remains from Mont Eribus there is one small analogous group at Ways, containing a Nauheim fibula and a fragment of an opaque glass bracelet with yellow zigzag ornament, a few small vases found beneath the Belgo-Roman level in a villa at Anderlecht, and a few small pottery finds from Angre (fig. 52:26a), Spiennes (Hut A) and Bavai.<sup>104</sup>

However, it seems that we must in future envisage the decades following the conquest, not as a period when the population was reduced and recuperated only slowly, but as a time when an ever-powerful aristocracy, who had temporarily been won over by the prestige of Caesar, found new reasons for resistance under Octavius. Supporting this view in the region of the Treveri is, on the one hand, the luxury of the newly-discovered chieftains' graves at Goeblingen-Nospelt<sup>105</sup> and, further, the marked activity in construction, or at least refurbishing, of hill-forts. These were finally, under the administrative reforms of Augustus, either abandoned for good or, like the Titelberg,<sup>106</sup> transformed into settlements and commercial and religious centres under the Empire.

Very few finds attributable to the Treveri have been discovered in Belgium. There is only the cemetery in a square enclosure at Tontelange.<sup>107</sup> In the chronology which can be established from cemeteries in the Trier region there follows, after the early phase (with carinated, necked bowls, omphalos cups with internal decoration, and squat beakers) and the late Rückweiler phase (with strong-shouldered flasks, bowls with everted rim, straight-sided drinking-cups and Nauheim fibulae), an early Hoppstädten phase<sup>108</sup> with ovoid flasks, drinking-cups with narrow foot, incurving bowls and *à coquille* fibulae. The Tontelange finds belong in this last phase, shortly before the final decade B.C.

In central Europe, where there was no conquest by Caesar, the limit between 'Late La Tène' and 'Early Empire' is drawn at the subjection of the Vindelici by Augustus in 15 B.C. The break is reflected in the differences between phases D 1 and D 2 at Manching.<sup>109</sup> These developments find a counterpart west of the Rhine in the preparations of Drusus to confront the Germani. In Belgium establishment of a military camp at *Atuatuca*<sup>110</sup> about 15 B.C. opens a new phase, characterized in the commercial field by the first Arretine imports (type Ia). In the regions, it is the beginning of 'Belgic ware', far more than knee-bow (*geknickt*) or advanced 'shell' fibulae, which imparts a distinctive aspect to settlement sites and grave-goods. It should be emphasized that though this Belgic ware re-utilized pre-Roman forms, such as the butt beakers known from native sites on the middle Rhine and in Switzerland, it only rarely derived its models from among the pottery of Belgium itself.

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Notes

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- 3 M. E. Mariën, *Oud-België, van de eerste landbouwers tot de komst van Caesar* (1952), 333-449; *idem*, *La période de La Tène en Belgique: Le Groupe de la Haine* (Monogr. Arch. Nat. 2, 1961), 143-47 (hereafter Mariën, *Haine*).
- 4 S. J. De Laet and W. Glasbergen, *De Voorgeschiedenis der Lage Landen* (1959), 183ff.
- 5 *B.G.* V, 39.
- 6 *B.G.* II, 4.
- 7 Mariën, *Trouvailles du Champ d'Urnes et des tombelles hallstattiennes de Court-Saint-Étienne* (1958), 236 f. 'Thraco-Cimmerian' in the sense of S. Piggott, *Ancient Europe* (1965), 178-82.
- 8 Mariën, *op. cit.*, 232 ff.
- 9 See further below.
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- 15 Comm. Sars-la-Buissière. Excavated in 1885 by A. Van Bastelaer; *Doc. Rapport Soc. Charleroi XVIII* (1891), 367-470; *XX* (1894), 471-72.
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- 17 Unpublished.
- 18 Unpublished; brief note in *Archéol.* (1968), 83-84.
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- 20 Hawkes, *op. cit.*, n. 2.
- 21 *B.G.* IV, 4.
- 22 *B.G.* V, 27.
- 23 S. J. De Laet and M. E. Mariën, 'La nécropole de Lommel-Kattenbosch', *L'Ant. Class.* 19 (1950), 309-66; bibl. in Mariën, *Oud-België*, 487-88; *idem*, *Haine*, 145-46.
- 24 W. Kersten, 'Die niederrheinische Grabhügelkultur', *Bonn. Jahrb.* 148 (1948), 55, fig. 18.
- 25 W. Dehn, 'Älter-latènezeitliche Marnekeramik im Rheingebiet', *Reinecke Festschr.* (1950), 50; list of influences, Kersten, *op. cit.*
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- 27 *B.G.* VI, 32; see below on the apparent contradiction between the two passages.
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- 36 A. Geubel, 'Chronique des fouilles dans les nécropoles à tombelles de La Tène en Ardenne belge', *Miscell. J. Breuer (Archaeol. Belg.* 61, 1962), 55-63.  
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- 48 Hawkes, 'New thoughts . . .' (n. 2).
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- 54 *B.G.* II, 29.
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- 60 H. J. Müller-Beck and E. Ettlinger, 'Die Besiedlung der Engelhalbinsel in Bern', 43-44 *BRGK* (1962-63), 137 ff.
- 61 J. Werner, 'Die Nauheimer Fibel', *Jahrb. RGZM* 2 (1955), 170-95.
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 107 P. P. Bonnenfant, 'Sépultures trévires à Tontelange', *Ann. Inst. Arch. Luxembourg* (1961), 3-26.  
 108 A. Haffner, *op. cit.*, 71-127, esp. 102-4.  
 109 W. Krämer, 'Manching II', *Germania* 40 (1962), 306.  
 110 M. Vanderhoeven, 'De Terra sigillata te Tongeren', *Helinium VII* (1967), 193-228.

### Some La Tène I sites mentioned

*Groupe de la Haine:*

- 1 Cibly
- 2 Mons, Mont Eribus
- 3 Bavai
- 4 Leval-Trahegnies
- 5 Harmignies
- 6 Epinois

40 Weert

*Other finds:*

- 50 Kemmelberg
- 51 Gentbrugge
- 52 Kester
- 53 Jandrain
- 54 Omal
- 55 Tongeren

*Groupe de la Crête Ardennaise:*

- 11 Sibret
- 12 Sainte-Marie, Wideumont
- 13 Sainte-Marie, Les Bouchons
- 14 Hamipré
- 15 Juseret
- 16 Massul
- 17 Namoussart
- 18 Nivelet
- 19 Hollange

- 60 Rochefort
- 61 Han-sur-Lesse
- 62 Saint-Gérard
- 63 Fontenelle
- 64 Silenrieux
- 65 Montignies-sur-Sambre
- 66 Hotton

*Groupe des Tailles:*

- 20 Mont-le-Ban
- 21 Cherain, Sterpigny
- 22 Bovigny

*Princely tombs:*

- E Eigenbilzen
- F Ferschweiler
- B Besseringen
- Z Zerf

*Groupe de la Campine (Kempen):*

- 30 Rijkevorsel
- 31 Baarle
- 32 Alphen
- 33 Riel
- 34 Bergeik
- 35 Lommel
- 36 Elsloo
- 37 Wijchen
- 38 Ophoven
- 39 Posterholt

*Hunsrück-Eifel II:*

- 70 Beilingen
- 71 Irsch
- 72 Silvingen
- 73 Peffingen

*Groupe de la Marne:*

- 80 Chassemy
- 81 Ciry-Salsogne
- 82 Saulces-Champenoises
- 83 Ville-sur-Retourne
- 84 Aussonce

# Some La Tène IIIa and La Tène IIIb (Nauheim phase) sites mentioned

## *Groupe de la Haine:*

- 4 Leval-Trahegnies
- 5 Spiennes
- 6 Péronnes-lez-Binche
- 7 Eprave
- 8 Forêt des Pothées

## *Coastal group:*

- 11 Bray Dunes
- 12 De Panne
- 13 Wulpen
- 14 Mariakerke
- 15 Westkerke
- 16 Oostkerke
- 17 Domburg
- 18 Tholen

## *Groupe de la Campine (Kempen):*

- 50 Rijkevorsel
- 51 Lommel
- 52 Vosselaar
- 53 Overpelt
- 54 Haelen

## *Settlement sites not assignable to groups:*

- 19 Brugge
- 20 Emelgem
- 21 Dentergem
- 22 Aalter
- 23 Drongen
- 24 Gent, Port-Arthur
- 25 Kruishoutem
- 26 Huise
- 30 Waasmunster, Bouchoute
- 31 Waasmunster, Sombeke
- 32 Elverzele
- 33 Sint-Niklaas
- 34 Temse, Velle
- 35 Heffen
- 36 Mechelen, Nekkerspoel
- 37 Rumst
- 38 Duffel
- 40 Wijnegem

- 41 Oelegem
- 42 Wondelgem
- 61 Glons
- 62 Wihogne
- 64 Orp-le-Grand
- 65 Jandrain
- 66 Folx-les-Caves
- 67 Jauche
- 71 Ukkel
- 93 Molenbeek

## *Fortified sites:*

- 29 Kemmelberg
- 70 Kessel, Loo
- 73 Avenelles
- 80 Saint-Servais, Hastedon
- 81 Marche-les-Dames
- 82 Châtelet le Boubier
- 83 Lompret
- 84 Dailly
- 85 Dourbes
- 86 Olloy
- 87 Waulsort
- 88 Jemelle
- 89 Tenneville

## *Other finds:*

- 72 Court-Saint-Etienne
- 76 Frasnes-lez-Buissenal (hoard)
- 78 Strÿtem (hoard)

## *Refuge caves:*

- 90 Han-sur-Lesse
- 97 Sinsin
- 98 Yvoir
- 99 Floreffe

## *Group of the Treveri:*

- 101 Buzenol
- 102 Nothomb, Parette
- 103 Titelberg
- 104 Preist
- 105 Ehrang
- 107 Kastel

# TRIBES AND ARCHAEOLOGICAL GROUPINGS

- 111 Schwirzheim
- 112 Biewer
- 113 Euren
- 114 Filzen
- 115 Perl
- 116 Tontelange

## *Princely tomb:*

G Goeblingen-Nospelt

## *Fortified sites belonging to Belgic tribes:*

- 120 Vieux-Moulin
- 121 Montigny
- 122 Ambleny
- 123 Pommiers
- 124 Pont-Saint-Mard
- 125 Vieux-Laon
- 126 Vieux-Reims
- 127 Vermand
- 128 Etrungt

## *Cemeteries belonging to Belgic tribes:*

- 132 Hannogne

- 133 Saint-Germainmont
- 134 Chassemy
- 135 Bétheniville
- 136 La Poterie

## *La Tène IIIb sites:*

### *with 'Nervian' pottery:*

- 2 Mons, Mont Eribus
- 91 Anderlecht
- 92 Ways

### *with 'Haldern' pottery:*

- 5 Spiennes
- 96 Haldern

### *with West Germanic pottery:*

- 95 Tongeren

### *other settlement sites:*

- 63 Marilles
- 75 Blicquy
- 77 Tournai
- 90 Han-sur-Lesse (cave)





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Firedogs in Iron Age Britain  
and beyond

*Stuart Piggott*



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In 1947 Christopher Hawkes (with M. R. Hull) published an animal-headed fragment of wrought iron from Camulodunum which could best be interpreted as part of a double-ended firedog of well-known type;<sup>1</sup> ten years later he was (with Margaret Smith) the writer of a study dealing largely with the connections between the east and west Mediterranean regions in the seventh century B.C.<sup>2</sup> I am glad to be able to offer him here an essay dealing in the main with the firedogs of the later British Iron Age, but with aspects of their interpretation leading us beyond, and into the world explored in his second paper.

The iron firedogs which form our main theme have long been recognized as an outstanding group of objects in British prehistory. Of over a dozen examples which have survived, most are intact, and consist basically of a horizontal bar joining two upright members supported on a pair of U-shaped feet; the uprights, rising to an impressive height, are crowned by outward-facing heads of horned cattle. These firedogs are in fact among some of the most spectacular antiquities of the last phase of the Celtic Iron Age in Britain. The earliest recorded find, that from Barton (Lord's Bridge or Hay Hill), Cambridgeshire, was made in 1817; the graves of Mount Bures (Essex) and Stanfordsbury (Beds.) were accidentally found in 1849 and 1845; the isolated Capel Garmon (Denbighshire) firedog was found in 1852. Later finds (always accidental) include the famous Welwyn graves of 1906, which gave Reginald Smith the occasion for an important study<sup>3</sup> and the last, those in the Baldock (Herts.) grave, were discovered in January 1968. To anticipate, we now have from late Iron Age or Roman Britain thirteen firedogs certainly or probably animal-headed, and two without zoomorphic characteristics: these are listed with references in Appendix I.

## Function

The function of the objects under discussion as firedogs belonging to an open wood fire has been accepted here and on the Continent more or less without demur since the earliest discoveries, but was called into question by Brailsford<sup>4</sup> in connection with another iron object decorated with bull-heads in grave 'B' at Welwyn: he

suggested that they might better have served as rests against which the wine amphorae often found with them in south-east England could be propped obliquely. We will turn to the Welwyn bull-headed 'frame' again shortly, as it has important consequences, not pursued by Brailsford, for the interpretation of certain Continental finds. But the firedog interpretation for the majority of the finds under discussion seems unassailable for several reasons. In the first place, to imply an inevitable association between them and wine amphorae would limit them to a restricted cultural context to which in fact they cannot be confined, as we shall see. Furthermore, Déchelette<sup>5</sup> drew attention to the typological continuity between the prehistoric iron firedogs and those of medieval and later Europe, as did other archaeologists and ethnographers, and I summarized the position myself<sup>6</sup> with a graphic pedigree, as also did Drost,<sup>7</sup> independently of my paper and in greater detail. Stimulated by a paper by Peate,<sup>8</sup> I showed that two basic types were involved, the massive double-ended firedog, animal-headed in prehistory, set frontally across the open hearth; and smaller forms, animal-headed or plain, double-ended and symmetrical or single-ended and asymmetrical, used in pairs laterally to the fire; Drost has demonstrated this in detail.

There remains a piece of evidence, which while not conclusive, is corroborative, and this is linguistic. The usual modern words stressing the zoomorphic characteristics (*firedog*, German *Feuerbock*) need refer to no more than medieval types, but the alternative English word, *andiron*, takes us on another track into an earlier past. Modern Eng. *andiron* is itself a confusion by attraction with Middle English *yre*, *yren* (iron) from an original Middle English *aundyre*, cognate with Modern French *landier* (= *l'andier*) and like it coming from a root in common with Medieval Latin *andera*, *andena* (glossed as *instrumentum ferreum foci*). This root in turn appears to represent a Celtic *\*anderos* (fem. *\*anderá*), a (? young) bull, heifer, represented in Old Irish *ander*, later *ainnear*, a girl, presumably in a slightly uncomplimentary transference from the original usage preserved in Welsh *enderig* and Breton *annoar*, a heifer, and apparently paralleled by a Basque borrowing from Celtic in *andere*, a girl. While not conclusive, this etymological excursus suggests that firedogs and cattle were in some way allied in early Celtic thought, and if so, this could hardly be other than in the context of the bull-headed objects which have survived.

## Firedogs and frames

It seems reasonable then to assume that what we have usually called firedogs did in fact perform the function on the hearth of their recent counterparts. But we must not therefore interpret all bull-headed iron fragments as firedogs, as Brailsford's study of

Grave 'B' at Welwyn reminds us. In this instance, the primary publication six years after the find<sup>9</sup> interpreted the rusted and broken fragments from graves 'A' and 'B' as representing a total of three firedogs and a quadrangular frame; one firedog from grave 'A', and two firedogs and a frame with no zoomorphic features from grave 'B'. Wooden replicas, and not the original fragments, served to illustrate the 1912 report. Later cleaning and conservation however enabled Brailsford in 1958 to demonstrate that the two firedogs from grave 'B' had not existed, but had been conjectured from four bull-headed bars which in fact formed the upper parts of the uprights of the frame. The function of this impressive object is unknown, but it could have held amphorae.

Since its original publication the Welwyn frame has been compared to a smaller iron bull-headed 'offering-table' from a grave at Arras (Pas-de-Calais); the addition of the Welwyn bull-heads makes the comparison still more apt.<sup>10</sup> Déchelette illustrates the Arras 'table' below another drawing of what he took to be another similar 'table', but '*à deux supports mobiles*', with ram-headed terminals, and from a grave at an unknown find-spot in the Marne.<sup>11</sup> In fact as we shall see the drawing and description result from a misunderstanding of a photograph of a pair of firedogs from Les Comelles, Prunay, Marne, and is not a 'table' comparable to the Arras find, which remains unique in France.

But there seem to be two other Continental finds which up to now have passed for zoomorphic firedogs, but seem better explained as fragments of 'frames' broadly of Welwyn type. The metal-work hoard of the late first century B.C. from Kappel (Dürnau) on the Federsee contains fragments of an undoubted firedog, but the pieces nos. 31, 32, 33 and 35 of Fischer<sup>12</sup> are combined by him in a reconstructed drawing (his Abb. 4) of an object which could not stand unsupported, as Powell was quick to realize, suggesting that it might better be interpreted as a 'frame'.<sup>13</sup> Such an interpretation seems in every way preferable, and enables all the unusual features of the fragments to be accounted for: the bun-shaped feet (in contrast to the U-shaped supports normal to firedogs); the two mortice joints in the uprights and the circular holes at the back of the horned bird-heads could all perform reasonable functions in a reconstruction along the lines of my fig. 55. The instability of the bird-headed uprights at Kappel prompt one also to reconsider the single bull-headed upright (pl. 33) from what has been assumed to be a firedog from the approximately contemporary *oppidum* of Stradonice in Bohemia. Here again the foot, though wider than at Kappel, is no more stable; it has not a U-shaped support, and the single junction-rod is high up, and circular in section: one of the four uprights of a small Welwyn type bull-headed 'frame' seems a preferable explanation here as well. In fact, returning to Britain, if we were over-cautious we might query the status of the Camulodunum find, and of another from Silchester, where we have only bull-head

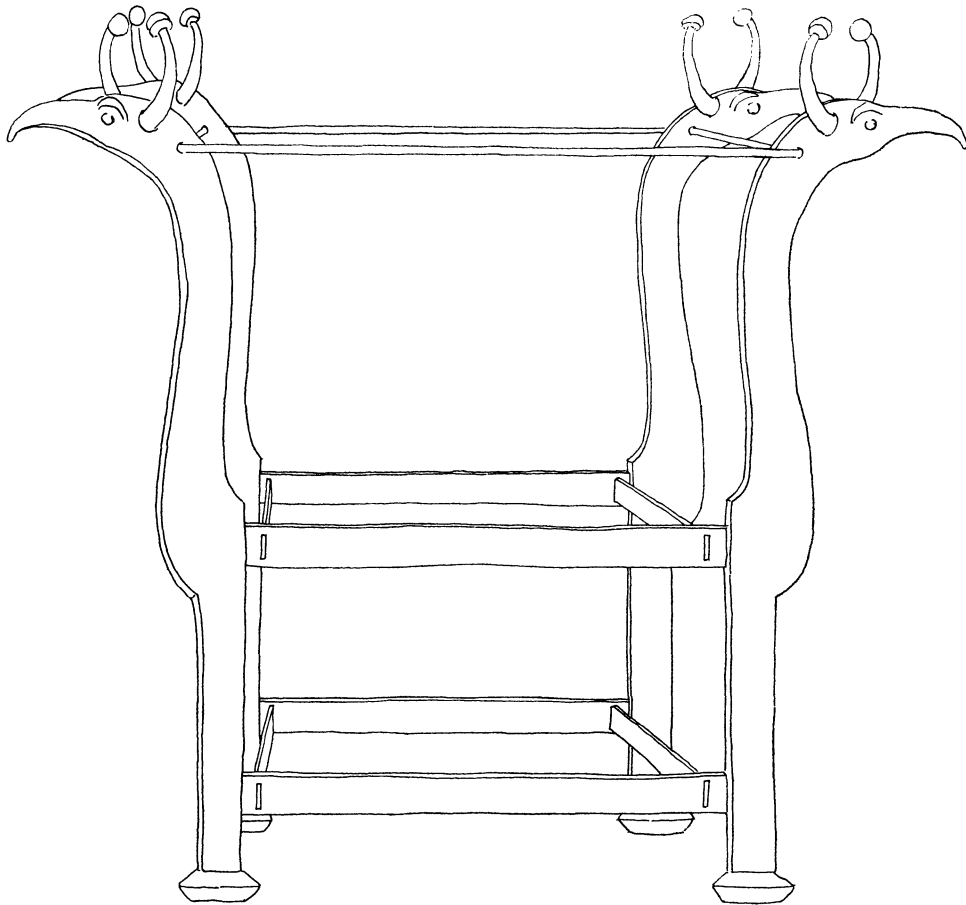


Figure 55. Reconstruction of iron fragments from the Kappel hoard

terminals on iron bars. I have however considered them firedog fragments for our present purpose, although the upward tilt of the Camulodunum head is suspiciously similar to those on the frame from Welwyn grave 'B'.

### The British firedogs: distribution

The total number of firedogs to be considered is fifteen, from twelve sites. These are listed alphabetically in Appendix I with references. Of examples sufficiently complete to judge from, ten are symmetrically double-ended, and of these eight are bull-headed; the uprights of Bulbury and Wilderspool are incomplete, and the Welshpool find, though of the highest interest, is in no way zoomorphic. The Camulodunum and Silchester fragments as we saw are bull-headed, while that from Bigberry has a

single bull-head but is of a type distinct from the remainder. Five finds (Baldock, Mount Bures, Stanfordsbury, Welwyn 'A' and Welshpool) are from graves, and the intact condition of the Barton firedog makes it almost certain that this too was a grave find; at the first three sites the firedogs were present in pairs. The finds from Bigberry, Camulodunum, Silchester, Bulbury and Wilderspool are from pre-Roman or Roman settlements. One find, sometimes included among iron firedog fragments (e.g. mapped by Piggott<sup>14</sup>) is that from Worlebury hill-fort in Somerset.<sup>15</sup> The possible identification was made by Wheeler in connection with the bull-headed iron bowl from Lydney,<sup>16</sup> but the knobbed object is asymmetric and unconvincing as a bull-head of any kind, and could even be medieval, so it is omitted here.

The distribution pattern, as has been recognized for long, has a marked concentration in the 'Belgic' areas of south-eastern England, from Camulodunum and from graves at Baldock, probably Barton, Mount Bures, Stanfordsbury and Welwyn. The outliers occur to the south (Bigberry) and south-west (Silchester, Bulbury) or further north-west (Wilderspool, Welshpool and Capel Garmon). We will reconsider this distribution in terms of cultures and chronology later; the range of date of ten in some sort of archaeological context is from the mid-first century B.C. to the early second century A.D. In the meantime we must turn to typology, and stylistic considerations.

## Typology

Of the complete or largely complete examples, the greater number are bull-headed, and within this group two types can be distinguished in the British firedogs, corresponding to a similar division perceptible in the Continental material, although the second of the two is represented by a single find only in Britain. The normal type is represented by the complete firedogs from Baldock, Barton (pl. 34), Capel Garmon (pl. 35), Mount Bures, Stanfordsbury and Welwyn 'A', all of which belong to the double-ended frontal group in which a single firedog is set transversely across the front of the hearth.<sup>17</sup> Their overall heights vary from about 105 cm (Mount Bures) or Welwyn, 96 cm, to the group of Capel Garmon, Stanfordsbury, Barton and Baldock, all between about 75 and 70 cm high. Among the incomplete examples the Bulbury firedog is the lower part only of the frontal type, lacking its presumably zoomorphic uprights; Camulodunum is the bull-headed terminal of an upright. The very small Silchester bull-head may have had a similar function, or be the terminal of one of a pair of small lateral firedogs, and Wilderspool is incomplete. The main series of large frontal firedogs, which we may call Type A, has close Continental parallels from north France and from Germany.



Type B is represented only by the fragment from the Bigberry hill-fort in Kent, smaller and of much lighter construction, with the surviving upright and bull-head in an S-curve above the wiry U-support instead of the normal vertical treatment. Jessup in publishing the piece percipiently saw its unusual affinities, and looked to ultimately Etruscan prototypes:<sup>18</sup> indeed, in late derivatives of Etruscan firedog types on the Continent we find the best parallels. It may have been a double-ended frontal firedog on a small scale, or the animal-headed end of one of a pair of asymmetric lateral dogs.

Of non-zoomorphic firedogs we have the uncertain fragment from a Roman context at Wilderspool, and the complete example from the remarkable Romano-Celtic burial of the early second century A.D. from Welshpool, which despite its formal dissimilarity in almost every particular except function from the zoomorphic series, has, as Boon pointed out in publishing the find, technical features which link it to the workshop practice behind the great Capel Garmon piece.<sup>19</sup>

## Type A

The salient features of this type have already been indicated, but a further subdivision can be made, whereby the elaborate and flamboyant treatment of the Capel Garmon firedog (pl. 36) separates it from the more austere handling of the main series from south-east England. Nevertheless it shares with the dogs from Barton, Mount Bures (pl. 37), Stanfordsbury and Welwyn, as well as the Camulodunum fragment and the Welwyn 'frame', the distinctive form of bull-head, with narrow elongated muzzle and long curved or angular rather wiry horns (with or without terminal knobs), which insofar as it can be considered to represent nature must be a nobly stylized version of *Bos primigenius* and not of the smaller stubby-horned *Bos longifrons*. Fox<sup>20</sup> noted that within the bull-heads of this type there were variants, in that Welwyn shares with Capel Garmon a 'flattened form with wide mouths', the other heads having a narrower muzzle: the Welwyn muzzles are shorter than the normal range. A close parallel in iron-work for the firedogs as a whole (though in miniature) are the bull-heads supporting a bowl from Lydney:<sup>21</sup> an extraordinary piece without counterparts, though there is a curious reminiscent affinity to seventh-century Etruscan 'horse-tripods'.<sup>22</sup> Another small piece of decorative iron-work in the same tradition is a bull-headed object from Great Chesterford.<sup>23</sup> The Barton heads have peculiarly fine lines;<sup>24</sup> the eyes at Stanfordsbury are in bronze inlay<sup>25</sup> and the Mount Bures horns have bronze knobs (pl. 37). The Welwyn firedog, since the publication of the wooden replica in 1912, had been thought to have strongly serrated crests on the

bull-heads, but in fact has the remnants only of a thin iron fin, perhaps partly comparable to the Capel Garmon crests discussed below, or the dewlap on the Frankfurt-Niederurssel heads. The Welwyn dog has also a pair of knobbed brackets at the base, too low to function as spit-rests and without counterparts elsewhere.

The newly-found Baldock firedogs have an individual treatment of the bull-heads—squat, tough, with a marked jaw-angle, protuberant eyes and dilated nostrils. The horns are less wiry than the others in the group, and more massive, with accentuated mushroom-shaped knobs. These heads come nearest in feeling to that on the Birdlip knife-handle,<sup>26</sup> and less closely, to the Ham Hill head,<sup>27</sup> which is much superior work. Behind this treatment lies such a head as that on a tankard-handle from Giubiasco, probably from grave 262<sup>28</sup> of the late first century B.C.<sup>29</sup> The little head from Silchester has the blunt muzzle and stubby forward-curving horns of the *Bos longifrons* rather than *primigenius* type, in an approximation to the style of the bronze heads on bucket mounts and similar Romano-Celtic pieces studied by Hawkes.<sup>30</sup>

The Capel Garmon (pl. 35) firedog is perhaps the most remarkable of the whole British series, and merits a rather full discussion. It had probably been a votive deposit in a pool, for when found in 1852 in cutting a ditch through a peat-bog 'it lay on the clay subsoil, flat upon its side, with a large stone at each end, and at a considerable depth'.<sup>31</sup> It is about 75 cm overall height and 85 cm across, on arched feet and with the uprights carrying bulls' heads with enormous knobbed crests ending in a bold curled strip of metal. A ribbon of iron strip is fixed with massive knobbed rivets in loops down the faces of the uprights, making spit-rests unparalleled elsewhere. The uprights are braced laterally to the cross-bar and transversely to the feet with similar curled iron ribbons and knobbed rivets.

The drawing in the original publication in 1856 is a travesty, but that of C. J. Praetorius published later<sup>32</sup> is excellent, and an important record. The firedog remained in private hands until transferred to the National Museum of Wales in 1939, and between the Praetorius drawing and this date the better preserved of the two bulls' heads (which are separate forgings attached to the extremities of the curved tops of the uprights by a tongue through a slot in the brow) must have become detached, and replaced upside-down, wedged into position with modern iron nails. Astonishingly enough, this inversion went unperceived by all students until I realized it in examining the object afresh in 1965, and all previously published photographs show the inverted head, with a consequent reversal of the curve of the horns.<sup>33</sup>

The firedog stands out from all the other British and Continental pieces in its elaboration and rococo flamboyance: 'essentially barbaric', said Fox,<sup>34</sup> 'product of another world of art and craft' from that of the south-east English examples. 'The piece should have a long history behind it', he added, and we can perhaps trace this

further than he did. A first step in understanding was made by Boon when publishing the remarkable Romano-Celtic grave-group of the early second century A.D. from Welshpool which contained a massive iron firedog, though not of zoomorphic type.<sup>35</sup> The use of large knobs and ribbons of iron on this firedog however, and on the pair of iron 'standards' or lamp-holders from the same grave is, as he pointed out, very similar to the treatment of the Capel Garmon piece and to a candle-holder from the Mithraeum at Segontium, suggesting that we are seeing products of 'the same regional school' of decorative wrought-iron work. To these examples we may add the iron flesh-fork from the Lochlee crannog in Ayrshire, with loops and spirals of iron strip and approximately contemporary with the Welshpool find.<sup>36</sup> The elaborate scroll-work and knot-work in the late Romano-British iron cauldron-chains is interesting in this respect, but hardly in the same idiom.<sup>37</sup>

These examples would suggest a westerly, perhaps north-westerly, tradition of baroque blacksmithing, but the similarity of the bulls' heads to those on the Lydney bowl might direct our attention southwards, and of course the elongated flattened muzzle is shared with Welwyn. Unique to Capel Garmon however are the great openwork and knobbed crests, departing wildly from any naturalistic taurine prototype, unless Welwyn originally had something similar, as Fox suggested.<sup>38</sup> Looking for parallels, we may reasonably dismiss Celtic helmet-crests, for nothing of the type has survived among the numerous La Tène and allied helmets available for comparison, and occasional coin representations such as a Cunobelin piece<sup>39</sup> are not really comparable, though some sort of a knobbed headdress is shown on an Icenian coin.<sup>40</sup> Crests of animals (such as boars) were subjects for decorative exaggeration in Celtic art, and the boar's crest from the lost carnyx from the River Witham had a curled lower end (here with a bird-head terminal) which I compared to the Capel Garmon crests.<sup>41</sup>

But a much more apposite comparison can be made between Capel Garmon and the profile human heads on the bronze mounts of the Marlborough 'bucket' or 'vat'.<sup>42</sup> These, especially the facing heads on the handle-supports, have crests of bold knobs, with a conspicuous curled lower end, precisely like those of the Capel Garmon bulls' heads, and, as Arthur Evans saw over seventy-five years ago, the antecedents of the Marlborough heads are those on coins of the Armorican group.<sup>43</sup> Allen, in his recent reassessment of the coin evidence, noted how, on numismatic grounds, the Durotriges must have had 'close and friendly business relations with Armorican Gaul' in the early to middle first century B.C. and Megaw has stressed the Gaulish affinities of the Marlborough style.<sup>44</sup> We are reminded too that the Bulbury firedog was in a metal-work hoard with an iron anchor and chain that could be of Venetic type, if not Roman. We will return to these circumstances shortly but in the meantime can suggest that there may have been a west British artistic tradition influenced from Armorica,

within which the Marlborough bucket and the Capel Garmon firedog could both find a place.

The loops on the Capel Garmon uprights could have been functional and held transverse spits turning in front of the fire, but no other prehistoric firedog of frontal type has such features, the knobbed brackets already noted on the Welwyn example being in a position which renders them useless for practical purposes. Four iron rods regarded as spits were found in the Stanfordbury grave which also contained the two frontal firedogs, but it is difficult to see how they could have been used in conjunction. Recent firedog types in southern Europe have in some forms hooks for spits on the uprights.<sup>45</sup>

## Type B

This, as we saw, is represented by a single find, that from Bigberry Camp near Harbledown in Kent. It has qualities distinguishing it from the Type A series, being of thinner rod construction and only 30 cm high, with an S-profile to the upright. As Jessup saw, there are no direct British counterparts, and the form recalls ultimate Etruscan prototypes, and later examples such as the fragments from Gurina in Carinthia. As we shall see, the small low 'Etruscan' form of firedog persisted for long in southern Europe north of the Alps. Gurina still remains the most apt parallel, unfortunately unassociated in a settlement-site of pre-Roman and Roman date; there is an Early La Tène animal-headed firedog of small low type from Hořovičky in Czechoslovakia, and an extraordinary specimen, with two pairs of animal heads, from a Roman grave of the early third century A.D. at Salurn in the Tyrol. Another example, asymmetric with one animal head (without horns), is an unassociated find from the Zihl river at Brügg in Switzerland. In the Kappel find, Fischer's nos 39 and 40, bird-heads perforated for horns on curved 'necks', could have been fragments of a small firedog broadly of our Type B. At all events these Continental counterparts serve to show that the Bigberry find is not unique, but represents a firedog style current in Europe side-by-side with Type A and with perceptible if remote connections with Etruscan types.

## Miscellaneous

We have already noted the typological ambiguity of the Bulbury and Wilderspool finds, of which the lower parts alone survive. The latter may have been one of a pair of lateral dogs. The Welshpool firedog is in no sense zoomorphic, and is low and

symmetrical on arched feet, with massive terminal knobs and coiled strips, 25 cm high overall. Boon considered it as likely to have been one of a pair used laterally, but as a single find in the grave it is perhaps preferable to relate it to the frontal type in function.

## Chronology and culture

It remains to set the British firedog series in a more detailed context of culture and chronology. Eight examples come from datable contexts, four of these being the graves of 'Belgic' type in south-east England at Baldock, Mount Bures, Stanfordbury and Welwyn. Stead, in a recent study<sup>46</sup> has shown how such graves can be placed in two main phases on the grounds of imported metal-work and amphorae; Baldock and Welwyn 'A' belonging to his Phase I, c. 50–10 B.C. and Mont Bures and Stanfordbury to Phase II, c. 10 B.C. to A.D. 50: these are Birchall's<sup>47</sup> Middle and Late Aylesford-Swarling periods respectively. The Camulodunum find was from a Period I location on the site, A.D. 10–43. The Bigberry piece was one of a quantity of iron objects found within the hill-fort area between 1861 and 1895, including a rod-and-chain cauldron-hanger of the type named from the find in the Stanfordbury grave,<sup>48</sup> lynch-pins paralleled at Llyn Cerrig Bach and part of a gang-chain again with a counterpart in this find<sup>49</sup> and in that found near but not necessarily in association with the Barton firedog. A date in the late first century B.C. or early first century A.D. would be appropriate to all the Bigberry finds. The Bulbury piece was again part of a metal-work hoard found in the hill-fort before 1887, containing *inter alia* the iron anchor and chain already referred to, fragments of a bronze mirror of degenerate type,<sup>50</sup> a sword-hilt of my Group IVa<sup>51</sup> and a tankard-handle dated by Corcoran<sup>52</sup> to the late first century B.C. In all, the group is probably not earlier than the earlier first century A.D. The Welshpool grave was of the early second century A.D., and the Silchester and Wilderspool fragments were unlocated in Roman contexts.

In what cultural place within the British Iron Age can we fit the bull-headed firedogs? Many of the finest and all the best associated finds come from south-east England in the tribal areas of the Catuvellauni (four finds), the Trinobantes (two) and the Cantiaci (one), and hence the type has come to be loosely referred to as 'Belgic': Fox regarded our Type A firedogs as 'distinctively Iron Age C, Belgic'. One wonders however whether in this context such a label is meaningful: what cultural significance would it have? As we shall see, on the Continent the analogues of the British iron bull-headed firedogs or frames, though not very common, are scattered widely across Celtic territory, and of the five Gaulish finds only one (Compiègne) is in Caesar's 'Belgium' as properly defined,<sup>53</sup> with two finds in the adjacent territory of the Remi and one is that of the Catalauni. In Britain, outside the south-eastern

group just enumerated, the tribal distribution is in the Atrebates, Durotriges, Ordovices and Brigantes.

There is another point. The 'Belgic' finds are almost exclusively from graves, and graves of a very peculiar kind. These are Stead's 'Welwyn-type graves', with their sometimes huge burial pits and their curious selection of grave-offerings which give no archaeological clue to the sex of the occupant (male at Welwyn Garden City) as they exclude the personal (brooches, mirrors, swords) at the expense of the convivial (firedogs, wine cups and flagons, etc.). They are in fact hero-tombs or chieftains' graves of a type recurrent in barbarian antiquity, allied to those defined as 'Royal Tombs' by Childe,<sup>54</sup> and popular at all stages of Celtic culture, sometimes containing vehicles of prestige, but often not. They are by no means specifically 'Belgic': Stead emphasized the close similarity between the Montefortino graves of the fourth century B.C. and these of south-east England under discussion, and I pointed out some time ago how the concept of the otherworld feast linked a series of princely tombs from the sixth century B.C. to the third century A.D. in Europe north of the Alps.<sup>55</sup> Although partial parallels seem to have existed in northern France, the Welwyn-type graves have many individual features, some (like cremation in a bear's skin at Welwyn Garden City) linking them to quite different areas, in this case south Scandinavia and the north European plain.<sup>56</sup> The hero-tomb type in Britain could continue into Roman times, as is shown by the burial vault of c. A.D. 300 (with gaming board and pieces as at Welwyn Garden City!) under the Romano-Celtic temple at Lullingstone.<sup>57</sup> Firedogs of Type A need a specific ritual consigning them to a large grave for their preservation, and had this burial practice a wider usage in Iron Age Britain, the distribution pattern of firedogs might be strikingly different from that which we can now construct.

Firedogs, particularly the large frontal type, are directly related to the barbarian open hearth and log fire, and to houses of central-hearth plan. The use of a cauldron on an elaborate chain or pot-hanger, of the types instanced below in another context, is similarly associated with an open hearth, and the fact that cauldron-chains of the Great Chesterford type were in use in Roman Britain as late as the fourth century A.D. prompts speculations on the type of house in which they functioned at this date in the civilized south-east of the Province, but the contemporary cruck-framed hall recently identified at Latimer (Bucks) suggests an answer.<sup>58</sup>

What we are dealing with are surely examples of inter-tribal iron-working within a common Celtic tradition which on the Continent we would call *La Tène III* or *D*, according to our position west or east of the Rhine. 'Metal weapons and implements are made by smiths', Hawkes has reminded us, and, as he goes on to say 'Britain had its own smiths, masters of talent and tradition' from the second century B.C. at least, prepared to work for appropriate patrons even if they had come across

the Channel.<sup>59</sup> Fox had already thought of the Welwyn firedog as related to Capel Garmon, and like it of Dobunic workmanship, and we have given reasons to strengthen the idea of metal-working schools in the west producing fine iron-work in an area where the metal was used for currency, as Allen<sup>60</sup> has confirmed, even if there is now no evidence for the use of ores from the Forest of Dean, as Fox had thought. The fourth century Senones who buried men and women in chieftain's graves at Montefortino, which so strikingly recall the Welwyn type, also on occasion included firedogs, this time of Etruscan type from local sources, and there is no reason to think that the Catuvellauni in Britain did other than use the products of local master-smiths already working in a tradition common not only to them, and to their counterparts who made the Laon and Les Commelles firedogs soon to be discussed, but to smiths throughout the Celtic world of late La Tène.

The iron types of this phase show such a remarkable standardization of form that one can scarcely distinguish regional differences over the whole area of the final Celtic world from Britain to Gaul and from Gaul to Transylvania. The chain with pinched oval links approximating to a figure-of-eight form (as on the gang-chains<sup>61</sup>) is one of these ubiquitous types; the chariot-pole sheathing of almost identical forms at Llyn Cerrig Bach, La Tène, and Husby near Flensburg is even more detailed and specific,<sup>62</sup> and the distinctive rod-and-ring type of cauldron-hanger, as in the Stanfordsbury grave, is another.<sup>63</sup> It is interesting here to see that behind the late first century B.C. type as at Stanfordsbury there are earlier prototypes, going back not only to La Tène II, as at Dühren, or La Tène itself, but to Hallstatt D at the Camp de Château, Salins, and Zárýbnik in Czechoslovakia.<sup>64</sup> This common Celtic tradition in iron-working can then be one of long ancestry by the time we meet it in La Tène III, and zoomorphic firedogs could similarly have been a type of early origin. Both firedogs and cauldron-chains are, as we saw, part of a domestic complex centred on the open hearth which was itself of ancient lineage in barbarian Europe, and particularly characteristic of the later Celtic world as seen not only from the archaeological evidence, but that of the classical and vernacular texts.

### The Continental La Tène finds

The finds of iron firedogs of types comparable with the British series on the Continent are relatively few, and are listed in Appendix B. We are not concerned with the well-known pottery series of small ram-headed firedogs of late La Tène Gaul, studied by Déchelette,<sup>65</sup> but with iron zoomorphic examples of our Types A and B. I have traced about a dozen firedogs, but others may well lurk unknown in provincial French museums; the range of distribution comprises France, Germany and Switzer-

land, but not Czechoslovakia if we accept the interpretation of the Stradonice piece as a bull-headed upright from a quadrangular frame of Welwyn type, rather than part of a firedog.

### Type A

There is only one find certainly from a grave, presumably of Welwyn type, and that is the pair of ram-headed iron firedogs from Les Commelles, Prunay, Marne. These fine pieces have tended to be ignored as firedogs owing to a change of opinion by Joseph Déchelette. Some time before 1911 the Abbé Breuil had shown him a photograph, taken by E. Fourdrignier, of what Déchelette then described as a pair of ram-headed frontal firedogs, which had been excavated by Coyon from a grave at a site known as Les Commelles in the Marne.<sup>66</sup> By the time the relevant volume of the *Manuel* came to be prepared, Déchelette seems to have come to regard these as two parts of a quadrangular frame of Arras type, publishing a drawing evidently made from the photograph, with that of the Arras piece, with the caption 'Tables en fer à deux étages'. In the selection of objects by periods in the plates at the end of the volume this drawing is repeated, as from '*Les Commelles, localité indéterminée du département de la Marne*'.<sup>67</sup> The site is in fact in the parish of Prunay, and two chariot- or cart-burials were found there in 1908 and 1911–12; Coyon came from Beine, in which commune Prunay lies, and excavated other burials in the region.<sup>68</sup> Déchelette's second opinion was probably influenced by the presence of two transverse bars on these firedogs rather than the normal single cross-member at the foot, but there is little doubt that his original view of 1911 is correct, and that we can rehabilitate and give a find-spot to a fine pair of frontal iron firedogs unusual in having rams' and not bulls' heads as terminals, but related thereby to the pottery series. Nothing more is known of the grave, and the firedogs themselves seem to have vanished.

Another grave-find (or finds) may well be represented by the two fine Type A bull-headed firedogs (pl. 38), unprovenanced in the museum at Laon (Aisne).<sup>69</sup> These are both some 55 cm high, and their completeness suggests that they came from a grave, but their history cannot be traced, although there is every reason to suppose them to be local finds. Of the remaining finds in France, the bull-headed fragment from the Camp d'Attila (Vieux-Chalons), La Chapelle (Marne), has no direct associations, but the fort was an *oppidum* of the Catalauni, with defences of 'Wheathampstead' type.<sup>70</sup> The complete bull-headed firedog, again about 55 cm high, from Compiègne (Oise) again has no precise context, but may have been associated with the sanctuary site in the Forêt de Compiègne which produced so many Gallo-Roman votive finds. Of the remaining French find, that from Vienne, it has proved impossible to discover details beyond the bare statement that fragments of one or more firedogs existed.<sup>71</sup>



Outside Gaul, we begin with the Wauwil (Switzerland) and the Frankfurt-Niederurssel (Germany) finds. The former, from some sort of lake-dwelling on the Wauwiler See, is represented by a pair of bull-headed terminals from a frontal firedog, on arched feet, 53 cm high, and lacking the joining cross-bar; the latter, from the site of a Roman villa, was complete, and a fine example, 69 cm high, unusual in having the bulls' heads with horns without knobs, and with decorative dewlaps in crimped iron sheet below their chins. This distinctive feature finds a parallel in the dewlap of the bull on the central base-plate of the Gundestrup cauldron, not usually visible in photographs but seen in Sandars and better in Grosse.<sup>72</sup>

The Kappel (Dürnau) finds merit fuller discussion from several points of view. They form part of a large metal-work hoard, votive or scrap, admirably published by Fischer,<sup>73</sup> and associated finds include a Late La Tène bronze jug of Werner's 'Kelheim' type (Fischer's 'Kaerumgaard' variant) similar to those from the two Welwyn graves and from Aylesford grave 'Y', and so of Birchall's Middle Phase, c. 50-10 B.C. We have then complete contemporaneity with our earlier firedogs in south-east England.

There are at least three iron horned-headed objects represented. The first, Fischer's nos 34, 36, 37 and 42, comprise an upright with a knob-horned bull's head, fragments of other knobbed horns, and two arched tripod feet. These form parts of a normal Type A firedog, 55 cm high, reconstructed in fig. 56. The second group of fragments, nos. 39 and 40, are bird-heads on curved necks which could be parts of a small firedog of Type B; the heads are perforated for horns, such as nos. 31, 32. The third group, nos. 31, 32, 33, 35, has already been commented on and interpreted as parts of a quadrangular frame crowned with horned eagles' heads (fig. 55), and not as a firedog. With the horned bird-heads we are moving into a stranger mythology than

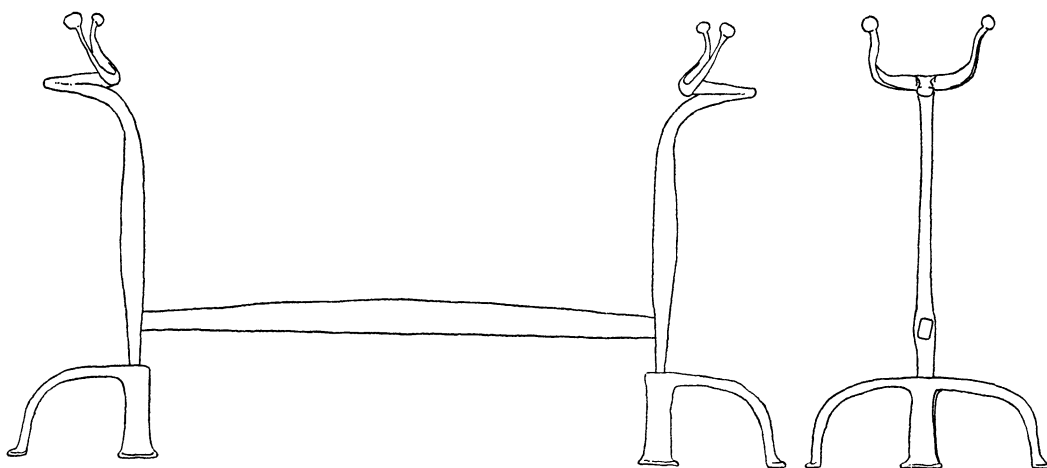


Figure 56. Type A firedog reconstructed from the Kappel hoard. Height 55 cm

that of knobbed-horned bulls; one current in Europe since Urnfield times at least, and capable of taking on fantastic forms.<sup>74</sup>

Our British Type A firedogs are then recognizably members of a group widespread in Celtic Europe in La Tène III times and, at least at Commelles, sometimes deposited in graves. Their absence however from the large series of La Tène graves excavated in northern France (and indeed the rarity there of graves comparable to our Welwyn series) stresses the insular quality both of the British firedogs, and of the burial rite in which some were deposited.

### Type B and its congeners

As we saw when discussing the Bigberry firedog, the best European parallels were two fragments from a settlement of pre-Roman and Roman date at Gurina (Dellach) in the Gail valley in Carinthia; like Bigberry, these have wiry S-curved necks and bulls' heads with unknobbed horns. These Gurina finds (and those at Kappel just mentioned) take us to a curious little group, scattered in time and place, which leads us from zoomorphic to non-zoomorphic types, and from the Celtic world to the Etruscan. As we shall see shortly, the deposition in tombs of firedogs, normally of paired lateral types with or without zoomorphic terminals, goes back to the seventh century B.C. among the Etruscans, as elsewhere in the Mediterranean world. From a Hallstatt C grave at Beilngries in Oberpfalz come a curious pair of low firedogs with triple-horned though only faintly zoomorphic terminals, together with spits, and this looks like a possible Etruscan import of the seventh century. Chronologically next is the single asymmetrical low firedog, with a single horned bird or animal head, from an Early La Tène grave at Hořovičky in Bohemia, dated to c. 420 B.C.<sup>75</sup> It is now destroyed and known only from a drawing, but it could once again be an Etruscan import within the general ambit of Celto-Etruscan relations at that time. From this point we move forward to the find from Ritten in the south Tyrol, from a settlement of Late La Tène date; it is an aberrant and non-zoomorphic example. Finally, in grave 78 of the Roman cemetery at Salurn in the Tyrol was an extraordinary firedog of low 'Etruscan' type, with a pair of horned heads at each end: the coins from the grave dated it to the beginning of the third century A.D.

### Celtic finds south of the Alps

We must now look briefly at certain graves of the Celts in Cisalpine Gaul. Among the cemeteries of the later fourth century there it was long ago noted by Déchelette that whereas the warrior-graves in for instance the Marzabotto cemetery were of normal

Gaulish type with sword, spear and La Tène I fibulae, at Bologna the tombs of the Boii, and those of the Senones at Montefortino, inland from Ancona, included large graves (at Montefortino lined with stone walling and roofed with slabs) containing numerous rich Etruscan imports.<sup>76</sup> We have in fact princely graves recalling the Welwyn series, as Stead<sup>77</sup> stressed, and in this instance of settlements of Celts in Etruscan territory, something approaching Childe's 'Royal Tomb' situation where these 'belong to barbarian societies suddenly irradiated from a much higher civilization'.<sup>78</sup> In the Bologna region at Santa Maria di Cazzano, a Gaulish warrior-grave, with an inhumation with an iron spearhead and several knives, also contained an iron firedog and bunch of spits of Etruscan type<sup>79</sup> and at Montefortino two of the richest tombs, both burials of women, again contained iron firedogs. Grave 8 was very richly furnished, with gold hair-wreaths, a mirror, an ivory comb, a gold torc, a silver snake-bracelet and bronze vessels, almost all Etruscan, and the low, symmetrical non-zoomorphic iron firedogs were in two pairs. Grave 23 was very similar to grave 8, with almost equally rich furnishings including one pair of iron firedogs similar to those in grave 8, with a bundle of spits. Such bundles, normally of six spits with a loop-handle holding them together, are an Etruscan type, with Greek counterparts: they were found in seven graves at Montefortino and are known also as stray finds from Transalpine Gaul (e.g. from the river at Chalon-sur-Saône)<sup>80</sup> and a comparable set of three iron spits (without a handle) was found in the Somme Bionne chariot-burial of the late fifth century B.C.

Our brief survey of the occurrence of firedogs in Celtic graves had led us to the fringes of the Etruscan world, where the custom had been established for some centuries before the arrival of the Celts. But as we look out from the Celtic world to that lying southward in the Mediterranean coasts and islands we see that the placing of firedogs in graves is not peculiarly Etruscan, but part of the phenomenon of contacts between east and west around the seventh century which attracted Hawkes in 1957. We have already encountered a problem, posed by the Montefortino graves and the occurrence of firedogs of derivative Etruscan types north of the Alps: was the whole tradition of firedog burial in La Tène contexts of Etruscan origin, and transmitted from Cisalpine to Transalpine Gaul, and thence to Britain? A final short section will deal with the possible bearing of the seventh-century Mediterranean world on this question, and on the firedog tradition in barbarian Europe as a whole.

### Firedogs beyond the Celtic world

The placing of firedogs in Celtic graves at Montefortino and elsewhere represented, in fourth century B.C. Italy, a custom as characteristically Etruscan as were the firedog types themselves. Not far removed in time come the bronze firedogs from the

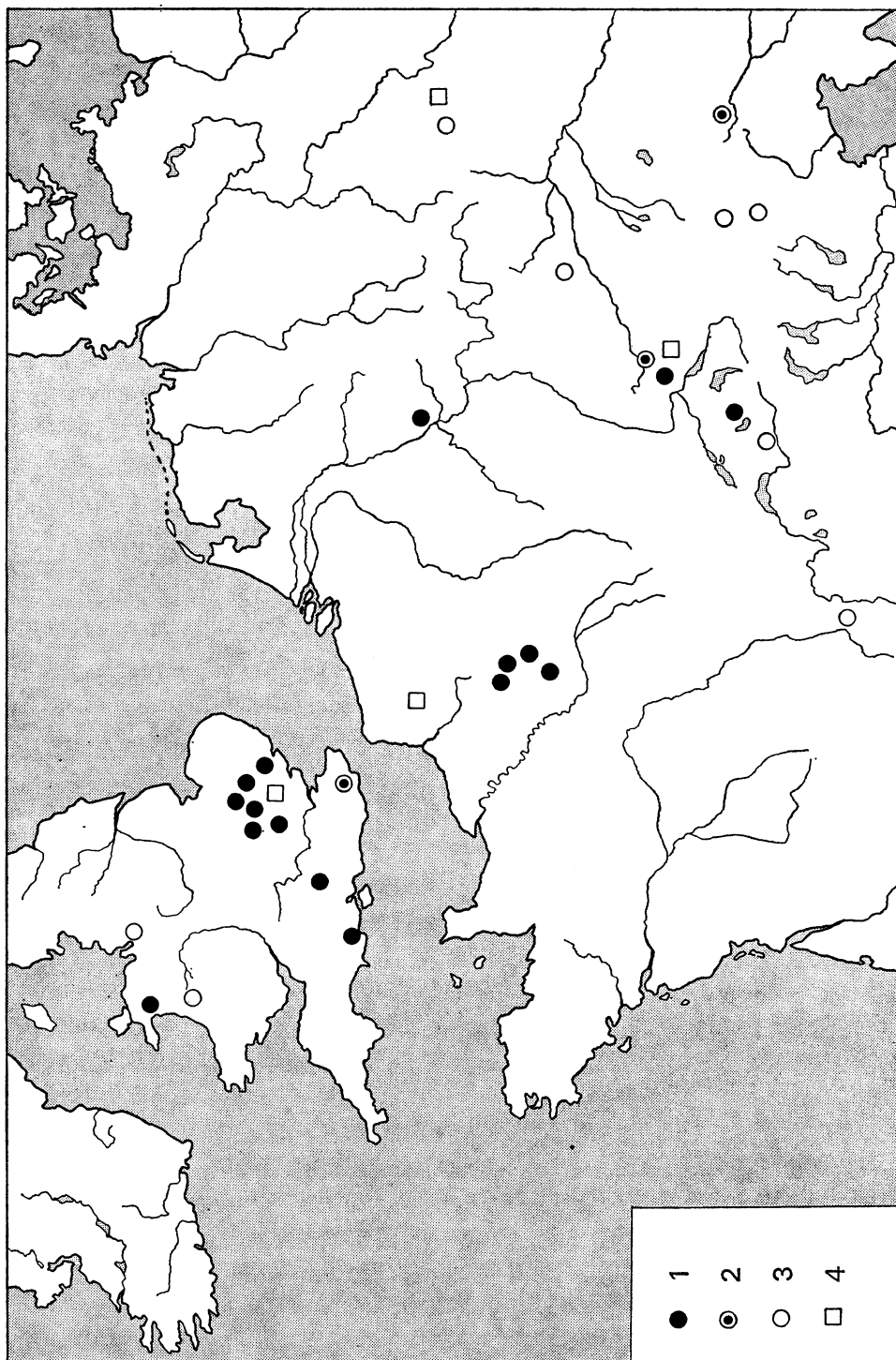


Figure 57. Iron firedogs. 1, Type A; 2, Type B; 3, Miscellaneous; 4, Iron 'frames'

late Este III tomb 31 at Capodaglio, with a decorated situla of the late fifth century,<sup>81</sup> and slightly earlier, the Este III grave with a firedog and a 'Saint-Valentin' vase of c. 450 to after 425 B.C.<sup>82</sup> Behind these again lie the main series from the richly furnished Etruscan graves such as the Regolini-Galassi tomb at Cerveteri,<sup>83</sup> the Bernadini tomb at Praeneste,<sup>84</sup> or the Cerrechio grave-circle at Vetulonia,<sup>85</sup> all of the seventh century B.C. Earlier contexts do not seem known: the one example mapped by Drost<sup>86</sup> as being of the eighth century and apparently from Vetulonia or Populonia, cannot be substantiated, and they are noticeably absent from the early graves at Tarquinia.<sup>87</sup> In short, the firedogs make their appearance in graves in the general context of the great phase of seventh-century Etruria, at the height of its power and with trade contacts throughout the Mediterranean and beyond, and in an 'Orientalizing' period.

We return to the problem posed by the Etruscan and Celtic situation in Italy: do we regard the whole Celtic phenomenon as derivative from this source? It is surely not necessary to interpret the evidence so narrowly. What we have in both instances is a common set of beliefs about the afterworld in which the hearth – literally the focus of the family status and liberal hospitality of the deceased – might be represented in the tomb by symbolic grave-goods. The concept is too obvious to demand a single place of origin, with subsequent diffusion. And indeed outside the Etruscan world the Celts were not the only peoples in antiquity to carry out this practice on occasion.

If we now turn to the eastern Mediterranean, we encounter the custom of depositing firedogs in the grave at a period contemporary with the earlier Etruscan finds, and even before. Three sites are now known, the earliest being the warrior's grave at Argos in Greece, firmly dated by its pottery to the beginning of the last quarter of the eighth century B.C., and not later.<sup>88</sup> Here, in addition to the warrior's equipment, were a pair of iron firedogs, evidently lateral, and in the form of stylized warships. Further east, and in a quite different cultural context from that of Geometric Greece, such ship-firedogs have also been found in two remarkable Cypriot graves, the first being in the cemetery of chamber-tombs at Salamis. Here, tomb 79 was fantastically richly furnished, with two thrones, a bed and a footstool inlaid in ivory, faience and silver plaques, two bronze cauldrons, one with elaborate griffin protomes, and a chariot and horses buried in the dromos. Among the grave-goods was a pair of iron firedogs of Argos type, as well as iron spits: the tomb, of the Cypro-Archaic I period, is dated to the late eighth or earlier seventh century.<sup>89</sup> Finally at Old Paphos, in a warrior's grave of the seventh century, again with a chariot burial in the dromos and equipment including a version of a V-notch circular shield, was another pair of identical type.<sup>90</sup>

We have then the custom of burying firedogs in graves going back in Geometric Greece to the eighth century B.C., and appearing slightly later, but simultaneously,

in princely tombs in Cyprus and Etruria. The evidence does not admit of more than this observation; it cannot however be chance that the seventh century was one of continuous and complex traffic between the west and east Mediterranean, and indeed beyond, as the V-notch shields and the cauldrons witness. But even if Argos has priority on present showing, one can hardly rest a case for a Greek origin for the whole Mediterranean series on a single find. The Cypro-Archaic finds are it is true of Argos type, but these tombs, and their contemporary Etruscan counterparts, are both products of wealthy, somewhat barbaric, societies not only exploiting their own metal resources, but with a magpie eclecticism in the accumulation of precious objects in varied and often debased art styles, with a *nouveau riche* vigour and disregard for the niceties of good taste. In such a climate of indiscriminate acquisition intangible ideas as well as material objects could come to enrich the traditions of Cypriots and Etruscans alike and funerary customs including the deposition of symbols of the domestic hearth could have been common currency in the mixed and mobile traditions circulating in the seventh century Mediterranean world, as later, in that of the Celts. As symbols, firedogs represent, as we saw from the first, the open, central hearth, such as the descendants of the megaron-type house in Geometric Greece would provide in common with the open-hearth houses of other cultures.

The firedog as ship seems a concept confined to Greece and Cyprus: the Etruscan occasionally and the Celtic firedogs almost universally are zoomorphic, and in the double-ended types present versions of a mythical double animal, a footed amphisbaena, a facing-both-ways, a Pushmepullyou. Such double animal protomes have a long history, and range from western Asia through the Caucasus, and in the Mediterranean make a notable appearance in the culture of the Nuraghi in Sardinia, where they adorn the points of votive swords or carry a deity or sacred symbol;<sup>91</sup> they reappear in Urnfield Europe, and here the double animal is insensibly merged into the boat with double bird- or animal-heads, and we are not only back in the symbolism of Argos and Salamis, but in the ambivalent mythological world of horned birds and animal-birds of Villanovan times.<sup>92</sup> It is this ambivalence that links the ship firedogs with the animal firedogs as symbolic burden-bearers. Indeed when we look at such vessels as the *Kesselwagen* from Skallerup, of Hallstatt A date,<sup>93</sup> we are uncertain whether we see a cauldron borne over the waves on a pair of double bird-prowed boats, or over the flames on bird-ended firedogs, and the model from Szaszvarossek in Transylvania is similarly ambiguous.<sup>94</sup> The apparent resemblance may be in our uncomprehending minds, but it may also reflect an intentional ambivalence, permeating and linking more than a few superficially disparate cultures in ancient Europe.

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## Appendix I: British firedogs and related finds

## Type A

- BALDOCK**, Herts. Two bull-head firedogs, c. 65–70 cm high, from cremation grave with amphora, cauldron, bronze dishes and bronze-mounted wooden bucket at ‘The Tene’. Excavated January 1968. Information from I. M. Stead and Ministry of Public Building and Works.  
Arts Council, *Early Celtic Art* (Exhibition Catalogue 1970) no. 110 (illus.).
- BARTON**, Cambs. Bull-head firedog c. 65 cm high found in unknown circumstances in 1817 near the barrow of Hay Hill, Lord’s Bridge. An iron gang-chain found at the same time may or may not have been associated. Museum of Archaeology & Ethnology, Cambridge.  
Smith, *Arch.* LXIII (1912), 1–30, with refs; Fox, *Arch. of the Cambridge Region* (1923), 100; *idem*, *Antiq. Journ.* VI (1926), 316–18; *idem*, *Pattern and Purpose* (1958), pl. 47; Piggott & Daniel, *Picture Book of Anc. Brit. Art.* (1951) no. 50; Thomas, *Pre-Roman Britain* (1965), no. 306; Powell, *Prehist. Art* (1966), nos. 253–4; Sandars, *Prehist. Art in Europe* (1968), pl. 304; Arts Council, *Early Celtic Art* (1970), no. 109.
- BULBURY CAMP**, Lytchett Minster, Dorset. Lower part of a firedog, surviving height c. 30 cm, found with other iron and bronze objects ‘together in the western side’ of the fort, ‘from 2 ft to 3 ft underground’ before 1884. Dorset County Museum, Dorchester.  
Cunnington, *Arch.* XLVIII (1884) 115–20.
- CAMULODUNUM**, Colchester, Essex. Fragment 14 cm long of the upper part of an ox-headed upright from Region 3, Site E.I., a period I context. Colchester & Essex Museum.  
Hawkes & Hull, *Camulodunum* (1947), 341.
- CAPEL GARMON**, Llanrwst, Denbighshire. Bull-head firedog, c. 75 cm high, found ‘by a man cutting a ditch through a turbary on the farm of Carreg Goedog’ in 1852. National Museum of Wales, Cardiff.  
Evans, *Arch. Camb.* 3rd. S. II (1856), 91–5; Allen, *Arch. Camb.* 6th. S. I (1901), 20–44; Piggott & Daniel, *op. cit.*, nos. 51–2; Fox, *Pattern & Purpose* (1958), pl. 48a; Arts Council, *Early Celtic Art* (1970), no. 108.
- MOUNT BURES**, Essex. Two bull-head firedogs, c. 106 cm high, from a Welwyn-type grave of Stead’s Phase II, found 1849. One firedog alone survives of the whole grave group. Colchester & Essex Museum, Colchester.  
Smith, *Arch.* LXIII (1912), 1–30, with refs.; Fox, *Arch. of the Cambridge Region* (1923), 100; Stead, *Arch.* CI (1967), 1 ff.
- SILCHESTER**, Berks. Iron fragment with horned bull-head 7.5 cm high, presumptively from a small firedog, unlocated among the iron-work from the Calleva Atrebatum excavations of 1890–1909. Reading Museum: unpublished. Information from G. Boon and W. H. Manning.
- STANFORDBURY**, Shefford, Beds. Two bull-head firedogs c. 75 cm high, found in 1845 in Grave ‘A’ at Stanfordsbury, of Stead’s Phase II. Museum of Archaeology and Ethnology, Cambridge.

- Smith, *Arch.* LXIII (1912), 1–30, with refs.; Fox, *Arch. of the Cambridge Region* (1923), 99, pl. XVII; Thomas, *Pre-Roman Britain* (1965), nos 305–6.
- WELWYN, Herts. Bull-head firedog, c. 99 cm high, from grave ‘A’ at Welwyn, of Stead’s Phase I, found 1906. British Museum.
- Smith, *Arch.* LXIII (1912), with faulty reconstruction; Brailsford, *Antiq. Journ.* XXXVIII (1958), 89–90; Fox, *Pattern and Purpose* (1958), 75; Stead, *Arch.* CI (1967), 1 ff. Arts Council, *Early Celtic Art* (1970), no. III.

## Type B and Miscellaneous

- BIGBERRY CAMP, Harbledown, Kent. Fragment of small bull-head firedog of Type B, c. 30 cm high, found with other iron objects and pottery in digging within the hill-fort before 1887. Maidstone Museum.
- Jessup, *Arch. Journ.* LXXXIX (1933), 87–115; Fox, *Pattern & Purpose* (1958), pl. 26c.
- WELSHPOOL, Montgomeryshire. Iron firedog of anomalous non-zoomorphic form, c. 25 cm high, from Romano-Celtic cremation burial of the early second century A.D., found 1939. National Museum of Wales.
- Boon, *Antiq. Journ.* XLI (1961), 13–31.
- WELWYN, Herts. Quadrangular iron frame with four outward-facing bull-heads, c. 1.22 m high, from grave ‘B’, found 1906 and originally published as two firedogs and a non-zoomorphic frame. British Museum.
- Smith, *Arch.* LXIII (1912), with wrong reconstruction; Brailsford, *Antiq. Journ.* XXXVIII (1958), 89–90, correcting this; Stead, *Arch.* CI (1967), 1 ff.
- WILDERSPOOL, Cheshire. Fragmentary iron firedog of uncertain type, but probably lateral, c. 26.5 cm high, from a pit in Long Bank Field, found during the excavations of the Roman site 1857–70. Warrington Museum.
- Cuming, *Journ. Brit. Arch. Assoc.* XIX (1863), 127–31; Watkin, *Roman Cheshire* (Liverpool 1886), 264.

## Appendix II: Continental Celtic iron firedogs and related finds north of the Alps

### Type A

- CAMP D’ ATTILA, (Vieux-Chalons), La Chappe, Marne, France. Bull-head fragment c. 20 cm high, probably from a firedog of Type A, from this site. Musée d’Antiquités nationales, St-Germain-en-Laye.
- Reinach, *Rev. Arch.* 5th. S. III (1916), 211–46; Gaudron, *Bull. Soc. Préhist. Franc.* LIII (1956), 119; Wheeler & Richardson, *Hill Forts of Northern France* (1957), 13 (for site).
- LES COMMELLES, Prunay, Marne, France. Two ram-headed firedogs, c. 65 cm high, from a grave excavated by Ch. Coyon before 1911. Lost.



- Déchelette, *Rev. Numis.* XV (1911), 47; idem, *Manuel IV* (1914), 918, fig. 631, 1 and pl. XII, 8.
- COMPIÈGNE, Oise, France. Bull-head firedog, c. 55 cm high, from this location before 1916. Musée d'Antiquités nationales, St-Germain-en-Laye.  
Reinach, *Rev. Arch.* 5th. S. III (1916), 211-48; Gaudron, *Bull. Soc. Préhist. Franc.* LIII (1956), 119.
- FRANKFURT-NEIDERURSEL, Frankfurt am Main, Germany. Bull-head firedog c. 68 cm high from a Roman villa site. Destroyed.  
Schönberger, *Saalburg- Jahrbuch* XI (1952), 22-130; Piggott, *Ancient Europe* (1965), pl. XLVIII a.
- KAPPEL, Kr. Saulgau, Germany. Fragments of bull-head firedog c. 35 cm high, from metal-work hoard of the first century B.C. Federseemuseum, Buchau.  
Reinerth, *Das Federseemoor als Siedlungsland des Vorzeitmenschen* (1929), Taf. XXXV; Fischer, *Der spätlatènezeitliche Depot-Fund von Kappel* (1959), nos 34, 36, 37, 42; Powell, *Prehistoric Art* (1966), pl. 256.
- LAON, Aisne, France. Probably from the Laon region, two unprovenanced bull-head firedogs, both c. 55 cm high. Laon Museum.  
Gaudron, *Bull. Soc. Préhist. Franc.* LII (1955), 275-77.
- WAUWIL, Lucerne, Switzerland. Pair of bull-head uprights of a firedog, c. 53 cm high, from lake-dwelling on the Wauwilersee, 1904. Basle Museum.  
Heierli, *Anzeiger für Schweiz. Altertumskunde* N.S. VIII (1906), 271-75; Déchelette, *Manuel IV* (1914), 914.

### Type B and miscellaneous

- BEILNGRIES, Oberpfalz, Germany. Pair of firedogs of 'Etruscan' type with two spits from inhumation barrow grave of Hallstatt C. Präh. Staatssammlung, Munich.  
W. Torbrügge, *Die Hallstattzeit in der Oberpfalz*, II, 1965, 85-6, Taf. 28.
- GURINA, Dellach, Gailtal, Austria. Fragments of two bull-headed firedogs of Type B, c. 12 cm high, found unassociated in a settlement ranging from Hallstatt to Roman. Klagenfurt Museum.  
Déchelette, *Manuel IV*, (1914), 914; Drost, *op. cit.*, 119.
- HOŘOVIČKY, Podbořany, Czechoslovakia. Firedog of 'Etruscan' type from Early La Tène grave of c. 420 B.C. Firedog since destroyed.  
Filip, *Keltové ve Střední Evropě* (1956), 159, 273, Pls. VI, XII; idem, *Enzyklopädisches Handbuch zur Ur- und Frühgeschichte Europas* Bd. I (1966), 504; Drost, *op. cit.*, 118.
- KAPPEL, Kr. Saulgau, Germany. Fragments of horned bird-headed uprights reconstructed by Fischer as a firedog, but considered better interpreted as a zoomorphic frame of Welwyn type, from metal-work hoard of the first century B.C. Federseemuseum, Buchau.  
Reinerth, *Das Federseemoor* . . . (1929), Taf. XXXV; Fischer, . . . *Fund von Kappel* (1959), nos 31, 32, 33, 35 and Abb. 4; Powell, *Prehistoric Art* (1966), 247-48.
- KAPPEL, Kr. Saulgau, Germany. Fragments of S-curved bird-head with perforations for horns, probably parts of a low firedog of Gurina type (Type B).  
Fischer, . . . *Fund von Kappel* (1959), nos 39, 40; with horns, nos. 31, 32.

- RITTEN, Tyrol. Small firedog of 'Etruscan' type from settlement of late La Tène date. Unknown museum.  
Drost, *Ethnogr.-Arch. Forsch.* II (1954), 119.
- SALURN, Tyrol. Firedog of 'Etruscan' type from grave 78 in Roman cemetery, of the early third century A.D.  
Drost, *op. cit.*, 115; Knoll, *Das Römerzeitliche Gräberfeld von Salurn* (1963), 89. Taf. 17.
- STRADONICE, Czechoslovakia. Bull-head upright, c. 29 cm high, usually assumed to be part of a firedog of Type A but considered better interpreted as an upright of a small zoomorphic frame of Welwyn type, from the late La Tène *oppidum*. Narodni Museum, Prague.  
Déchelette, *Manuel IV* (1914), 914; Filip, *Keltové ve Střední Evropě* (1956), Tab. CXXVIII, 27.
- VIENNE, Isère, France. Fragments of firedog(s) of unknown type. Museum in Lyons: details unobtainable.  
Déchelette, *Rev. Numis.* XV (1911), 47.
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Drost, *op. cit.*, 119.

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